CHEMIST AND DRUGGIST

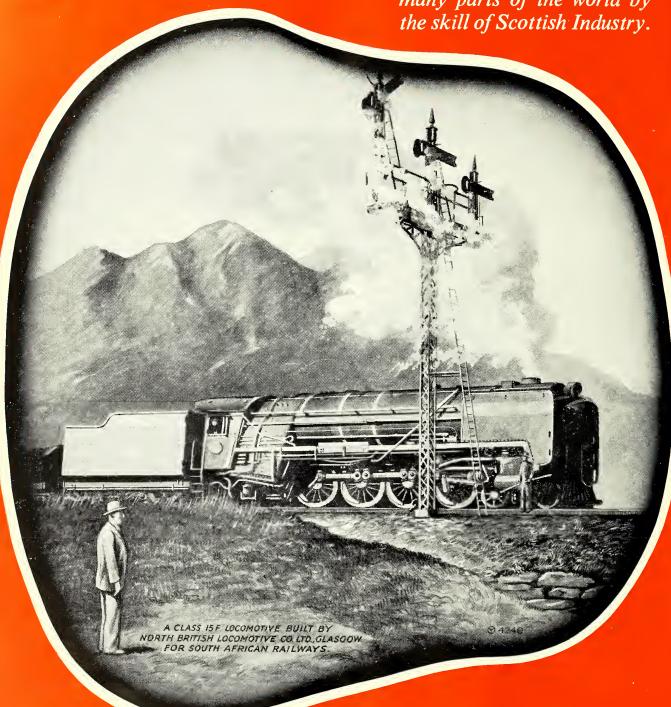
For Retailer, Wholesaler and Manufacturer

APRIL 11 1953



A FINE TRADITION—

maintained and upheld in many parts of the world by the skill of Scottish Industry.



T.&H.SMITH,LTD.

BLANDFIELD CHEMICAL WORKS

EDINBURGH · SCOTLAND

For Fine Chemicals and Pharmaceutical Preparations including

ALOIN
HYOSCINE
METHADON
OPIATES
ATROPINE & SALTS



BEEF EATERS!

The name 'Beefeaters' is supposed to have originated in 1669, when the Duke of Tuscany wrote of them :—" They are very great eaters of beef, of which a very large ration is given to them daily at Court—they might be called 'Beefeaters'."

Though the name has prevailed through the years, the same cannot be said of the beef ration. Indeed, most protein foods—foods which constitute the very foundation of the recovery diet—are in short supply. How, then, can you make sure that your customers have all the protein they need? Simple enough —make sure that they know about CASILAN. Every ounce provides 26 grams of protein—more than in four eggs or a pint and a half of milk. And CASILAN is flavourless . . . goes unnoticed in almost any food or drink . . . just the thing now that "beef eating" is restricted to one or two days a week.



worth its weight in protein

8-oz. containers: face price 4/-; trade price 38/5 per doz. Parcel No. 2 (12 × 8-oz.), £1.16.0. net

Order parcels direct from Greenford, quoting wholesaler's name for invoicing purposes

GLAXO LABORATORIES LTD., GREENFORD, MIDDLESEX. BYRon

A new combination

CODIS

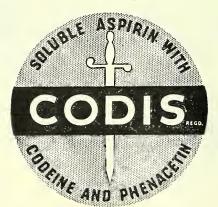
soluble aspirin with codeine phosphate and phenacetin

-CM

Codis presents a familiar grouping of analgesic drugs; aspirin, phenacetin, codeine phosphate; with an important advantage. The "aspirin" in Codis is rendered soluble, as in 'Solprin'

Placed, uncrushed, in water, a Codis tablet disperses in a matter of seconds to form a solution of calcium aspirin and codeine phosphate with finely suspended phenacetin. The chance of irritation of the gastric mucosa by undissolved particles of aspirin is thus minimised.

Codis is recommended for all those conditions for which Tab. Codein. Co. B.P. would be prescribed. It has the added advantages of greater ease of administration and far less likelihood of aspirin intolerance, while the rapid absorption of the soluble aspirin promotes prompt relief.



COMPOSITION

Each Codis tablet contains: Acid. Acetylsalicyl. B.P. 4 grs., Phenacet. B.P. 4 grs., Codein Phosph. B.P. 0.125 grs., Calc. Carb. B.P. 1.2 grs., Acid. Cit. B.P. (Exsic.) 0.4 grs., Excip. ad. 11.45 grs.

Codis is not advertised to the public

DISPENSING PACK (Purchase Tax free) 300 tablets in distinctive gold foils of 6 tablets each 16/6 per box.

PUBLIC SIZES Packs of 20 tablets 2/9 each inc. P.T.

RECKITT & COLMAN LTD., HULL AND LONDON. (PHARMACEUTICAL DEPT., HULL)



CORONATION SALES

- ★ Advertising from Radio Luxembourg.
- ★ Full range of revised Bonus Parcels.
- ★ Comprehensive show material.
- ★ Dressed window displays.

CROOKES







THE CROOKES LABORATORIES LIMITED . PARK ROYAL . LONDON . N.W.10

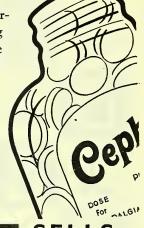




MEANS BUSINESS

The '52-'53 Cephos advertising campaign covering press and films will create an even greater demand for this famous remedy. To bring the full impact of this advertising into your shop, apply direct for Cephos Sales - Aid Material.

Help us to help you by carrying ample stocks.





readily and steadily

CEPHOS LTD . BLACKBURN . LANCS

AN EFFECTIVE NEW TREATMENT FOR SORE THROATS

Tyrosolven lozenges combine the powerful antibiotic tyrothricin with the mild anæsthetic benzocaine, to give quick relief for sore throats and all throat and mouth infections.

NOTE THESE ADVANTAGES AND STOCK TYROSOLVEN LOZENGES

- . Really effective relief at a reasonable price . . . 2/6 for 20.
- 2. Excellent profit . . . 33\frac{1}{3}\%, plus extra 5\% for orders of £5 or over. No Purchase Tax.
- 3. Already widely prescribed by doctors, you can rely on them.
- 4. All-the-year-round sales . . . ideal for sore throats in dry weather.
- 5. Handy pack and small pleasant-to-suck lozenge.
- **6.** No risk of antibiotic resistance . . . the tyrothricin is not absorbed into the system.

PACKING AND PRICES

Tubes of 20, Retail Price 2/6d. each, List Price 20/- per doz.: Dispensing Bottles of 250, 16/8d. each. Not subject to Purchase Tax.



WILLIAM R. WARNER & CO. LTD., POWER ROAD, LONDON, W.4.

INDEX TO ADVERTISERS

Addis Itd 29 41	Daniel, Ric
Addis, Ltd	Degree Mi
Albro Fillers & Engineering Co., Ltd. 14	Duncan, T
Thoro I mero & Zingmeeting Con, Zin	Dunn Brot
	Dyanese, I
Timodi Edociatories, The	Dyanese, 1
I I Motion Con Con Dear I I I I I I I I I I I I I I I I I I I	Eades, Geo
Ashwood Timber Industries, Ltd	Edge, Wm
Banister Street Works, Ltd	Edme, Ltd.
Beatson, Clark & Co., Ltd. 26, 54	" Elasto "
	Ephazone,
Bell, John Hills & Lates, Lear Hills	Ephazone,
	Fallowfield
	Feedrite, L
Brannan, S., & Sons, Ltd	Ferris & C
British Drug Houses, Ltd., The	Fluid Equi
Britton, Malcolm, & Co., Ltd	
Blook, Parker & Co., Ltd	Foyle, W.
Burrough, James, Ltd Leader Page	Franco-Bri
Burroughs Wellcome & Co	Franks, A.
Bush, W. J., & Co., Ltd	Colo P. M
	Gale & M
C. & G.S. Trading Company	Gardner, V
Camilatone, Ltd	Gerhardt,
Caplin, J. L. (Teacher Beaker) 50	Glaxo Lal
Carnegie Chemicals (Welwyn), Ltd	Gledhill, C
Cephos, Ltd 4	Golden, Lt
Chemist & Druggist Refresher Course	Gosheron,
Chemist & Druggist, The Poisons Guide 44	
Chemist & Druggist, The Truss Fittings 64	Halewood
Clinical Products, Ltd	Hanna, Vi
"Codis"	Harley, T.,
Cohen, George, Sons & Co., Ltd. 24	Harris, F.
	Harrison,
	Hinders, I
- Con, 121 than 221, 60 con, — to 1111111111111111111111111111111111	Holland, I
	Hughes Br
Culmak, Ltd. Leader Page	Hygienic I
Cupal, Ltd	, 6
Cuxson, Gerrard & Co., Ltd	

Daniel, Richard & Son, Ltd. Degree Mftg. Co., Ltd. Duncan, T. V. (Ilon Abscess Salve)	27 7
Dunn Brothers Successors, Ltd. Dyanese, Ltd.	44 54
Eades, George, Ltd	30 52 50
Edme, Ltd. "Elasto" Ephazone, Ltd.	52 64
Fallowfield, Jonathan, Ltd	45 31
Ferris & Co., Ltd	52 17
Foyle, W. & G., Ltd	16 44 12
Gale & Mount, Ltd.	62
Gardner, Wm., & Sons (Glos.), Ltd. Gerhardt, C. F., Ltd. Glaxo Laboratories, Ltd.	30
Gledhill, G. H., & Sons, Ltd. Golden, Ltd. (Tress)	50 43
Gosheron, John, & Co., Ltd. Halewood Chemicals, Ltd.	44 54
Hanna, Victor E., Ltd. Harley, T., Ltd. (Rodine)	62 44 16
Harris, F. & R. M., Ltd. Harrison, A., & Sons, Ltd. Hinders, Ltd. Leader	4
Holland, I., Ltd. Hughes Brushes, Ltd.	16 46
Hygienic Drinking Straws, Ltd.	

From the Carnegie Range of Fine Chemicals

PODOPHYLLIN

CARNEGIE CHEMICALS (WELWYN) LTD

WELWYN GARDEN CITY: HERTFORDSHIRE: ENGLAND

Telegrams: CARNECHEM, WELWYN GARDEN
Telephone: WELWYN GARDEN 506 (4 lines)

INDEX (cont.)		Procea, Ltd. 6 Proprietary Articles Trade Association, The 2	,
Imperial Chemical (Pharmaceuticals), Ltd	14 59 35	"Radio Times" 6 Radiol Chemicals, Ltd. 4 Rayner & Co., Ltd. 3	1
Jeffreys, Miller & Co., Ltd	51 62 55	Rentokil, Ltd. 4 Riley, John, & Sons, Ltd. 6 Rimmell Distributors, Ltd. 20-2 Rose, J. L., Ltd. 3	2
Kelly's, John (London), Ltd.	62 38 54	Sallis, E., Ltd	1
	28 14 ver	Smith, T. & H., Ltd. Cover Stemco, Ltd. 10-1 Steradent Swan Mill Paper Co. 6	l
Mandleberg, J., & Co., Ltd. Manesty Machines, Ltd Mark-O-Print, Ltd.	23 46 17 18 30	Tempo Laboratories, Ltd. 5 Thermos (1925), Ltd. 6 Trapow, D., & Co., Ltd. 2 Tunnel Glucose Refineries, Ltd. 3)
Max Factor (Hollywood & London Sales), Ltd Medico-Biological Laboratories, Ltd	37 53 36	United Glass Bottle Manufacturers, Ltd. 5 Universal Metal Products, Ltd. 1	9
Morrell, John & Co., Ltd. "Myers of Old Street"	63	Vacco Sales, Ltd. 5 Wallis Laboratory, Ltd. 3 Warner, Wm. R., & Co., Ltd. 3	3
	60	Whiffen & Sons, Ltd. Cover i Whitakers & Co. (Kendali), Ltd. 3 Wiles of Woodmansey 4 Wilkinson, S. W., & Co., Ltd. 1	3.
Osborne, Garrett & Co., Ltd.	66 45	Wimsol, Ltd. (Wimzo)	3
Pentecon, Ltd.	16	Zeal, G. H., Ltd.Cover isZebs Laboratories, Ltd.6Zimmermann, C., & Co., Ltd.6	Ó

RE-/NTRODUCING ILON ABSCESS SALVE

Ilon Abscess Salve has been found an infallible remedy for the treatment and elimination of Boils, Carbuncles and Abscesses. Rapid and painless in its action—Four applications being normally sufficient.

ILODERM—manufactured by the same Company is excellent in the treatment of Burns, Dermatitis and most other Skin Ailments.

There is no penicillin or other Anti-Biotic in any of the ILON products.

Concessionaire: - T. V. Duncan, 181 Blairbeth Road, Burnside, Lanarkshire, Scotland.



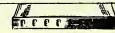




ABSCESS SALVE
TUBE WITH ABOUT 20 GRAMMES

Principal Distributors:-NEW

APOTHECARIES CO., LTD., 59 GLASSFORD STREET, GLASGOW, C.I. ILON CHEMISCHE INDUSTRIE, FREIBURGH, GERMANY.





We are the first to offer it in the most pleasant way at a very popular price and with a large margin of profit

CHLOROPHYLL CHEWING GUM

(NOW FULLY SWEETENED)

If you are a Wholesaler . . . please fill in and send us the attached coupon

If you are a Retailer please fill in and send us the coupon as well; we shall pass it to wholesalers distributing these lines

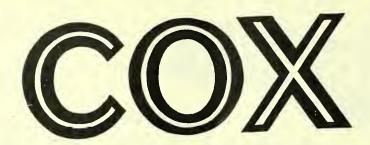
To DEGREE MANUFACTURING CO. LTD. Southall Lane, Southall, Middlesex

Send me—without obligation on my side—FREE samples, prices and other details of "PHYLL" the Chlorophyll Chewing Gum

I am a WHOLESALER / I am a RETAILER
(Please delete words not applicable)

Name Address

C.D.7



the first name you think of for

PILLS&TABLETS

Bulk or packed Coated or uncoated Standard or special formulæ

ARTHUR H. COX & CO. LTD.,

BRIGHTON, 7, SUSSEX



ATTENTION ALL PHARMACISTS

P.A.T.A.

PYOREX BAILLY

MEDICATED DENTIFRICE

Is being energetically introduced to the Dental Profession by:

- ★ Direct Mail
- * Sampling
- * Bi-monthly Press Insertions
- * Personal Representation

Demand is growing due to approval and recommendation by Dentists.

YOUR PROFIT over 40%

Price to you 20/8 doz. plus 6/9 P.T.

RETAIL PRICE 3/- per tube

We would appreciate your support in its distribution

GUTTILIN SOLUTIONS

in automatic glass dropper

for

OPHTHALMIC, AURAL AND NASAL MEDICATION

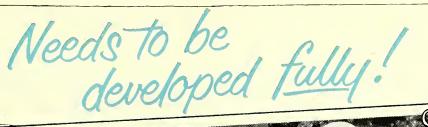
These solutions are protected from contamination, remain stable indefinitely, and are ready for immediate use.

Constant postal and personal propaganda is maintained to the medical profession.

List of available solutions sent on request.

BENGUE & CO., LTD.

Manufacturing Chemists, MOUNT PLEASANT, ALPERTON, WEMBLEY, MIDDX.





One-third of the market already uses a denture cleaner...two-thirds awaits development

1 in 3 of the twenty million denture wearers already use a specific denture cleaner, But the other two-thirds still use makeshifts. Even kitchen scourers!

Research shows that when customers try Steradent they keep on buying it. Steradent's lively, new biggest-ever advertising is aimed at those remaining two-thirds!

So just show your customers that you stock Steradent and (if we may strain the metaphor beyond endurance!)...

Draw in the other two with Steradent!

Order Now for

FLIT SELLS FASTER MILLIONS DEMAND IT

> FLIT **OUT-ADVERTISES ALL OTHER BRANDS OF INSECTICIDE**

FLIT AEROSOLS NEW SPECIAL BONUS

World's

No. 1 Insecticide

Order your FLIT bonus parcel today. You stock it

STEMCO LIMITED, 128/132 ALBERT STREET, CAMDEN TOWN, N.W.1







All Wholesale enquiries to this address please

ALFRED FRANKS & BARTLETT CO. LTD

Telephone: TERminus 9865/8 226/8 GRAY'S INN ROAD · LONDON · W·C·I



ELASTIC SURGICAL APPLIANCES

SURGICAL BELTS CORSETS . BRASSIERES

ELASTIC BAND TRUSSES . ATHLETIC SLIPS

STOCKINGS: Seamed · Seamless · Two-way Stretch

SUSPENSORY BANDAGES



E. SALLIS LTD

VERNON WORKS · BASFORD · NOTTINGHAM

PHONE 77841/2

GRAMS, "EESINESS"

Introducing

The "CLINITAPE"

Fully Automatic
STRIP PACKAGING MACHINE

for pills, tablets and capsules

SIMPLICITY and
LOW COST OF OPERATION

* For packaging 240 tablets per minute in individual compartments in practically any heat sealing film or foil. The product is gently handled by the machine thus avoiding marring and breaking.

* Will package tablets up to $\frac{5}{8}$ " diameter.

* Overall dimensions of the machine height 2' 9½", length 3' 6", width 1' 2"

* Weight 1½ cwts.

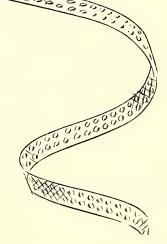
Full details and descriptive brochure on request

VISUAL EFFICIENCY LTD

2 The Green, Richmond, Surrey

Manufactured by: Morgan Fairest Ltd., Sheffield 4

Packing Service in "Clinitape"
When a packing service only is required, contact
Clinical Products Ltd., Richmond, Surrey.



FAST . . . FOOLPROOF FILLING

for Medicines, Antiseptics, Lotions, etc.

- ★ Fully Automatic.
- ★ Foolproof valveless vacuum-operation
- ★ 15 Heads—Output up to 100 bottles per minute
- * Full details on request



VACUUM - OPERATED

15-HEAD ROTARY FILLER

ALBRO FILLERS & ENGINEERING CO. LTD., Wharf Road, Ponders End, ENFIELD, Mddx.



PASCALL

mixers are designed to distribute the various powders evenly throughout the mass quickly and efficiently. They are fitted with removable agitators, self-emptying troughs, and safety-devices. Trough capacities available between 2 and 18 cu.ft

Stornless or mild steel construction.

Write for list 94
Tel: Paddington 7236

THE PASCALL ENGINEERING CO., LTD., 114, LISSON GROVE, LONDON, N.W.1



LEIGH & SONS METAL WORKS LTD

CARBOYS
PACKED CARBOYS
CARBOY TILTERS
AND BARROWS
SAFETY CRATES
TOP PROTECTORS

ORLANDO STREET, BOLTON
TELEPHUNE: BOLTON 312

COLLAPSIBLE TUBES

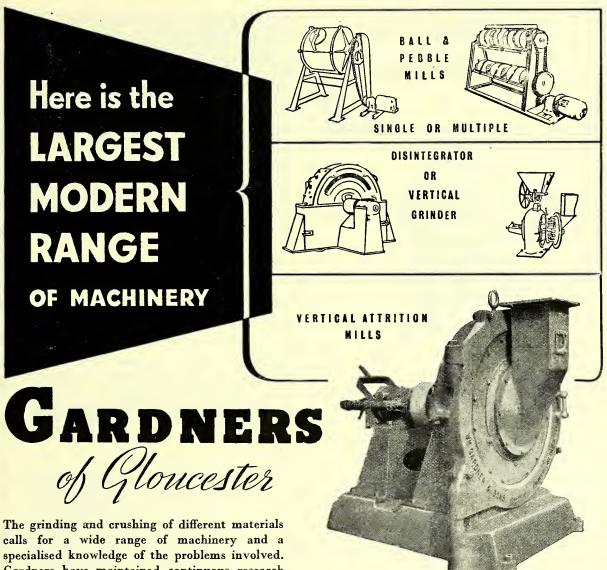
OF TIN, LEAD, ALUMINIUM AND TINPLATED LEAD

Collapsible Tubes from Stock, in 1 gross lots and above, for Chemists and Laboratories who make their own creams and ointments.

Price list and samples upon request

IMPAX WORKS (Mail Order Department)
Browells Lane, FELTHAM, Middlesex
Telephone: Feltham 4211 (2 lines)

Have you a GRINDING problem?



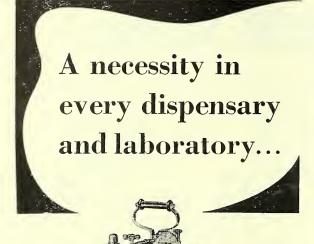
The grinding and crushing of different materials calls for a wide range of machinery and a specialised knowledge of the problems involved. Gardners have maintained continuous research into the various methods and materials and offer a standard machine for nearly every known manufacturing process. Special machines can be designed when required.

Backed by this large range and the experience of nearly a century in powder processing, Gardners can offer an unequalled service to manufacturers. Please let us know your requirements or let our fully equipped laboratory test your materials in confidence.

The 'Rapid' High Speed VERTICAL ATTRITION MILL illustrated was originally designed for wet grinding of maize, but is also widely used for semi-dry materials such as cocoablock, etc. The grinding plates of special hardened steel have a revolving disc with teeth intercepting with the teeth of the stationary disc. The revolving disc, dynamically balanced, normally runs at 1,000 r.p.m., giving a high rate of efficient grinding. A testing machine is available for your samples or please write for further details.

WM. GARDNER & SONS (GLOUCESTER) LTD., BRISTOL ROAD, GLOUCESTER

Telephone: Gloucester 21261 Telegrams & Cables: "GARDNER, GLOUCESTER"
LONDON OFFICE: 1 Albemarle Street, London, W.1 Telephone: Grosvenor 8206





... for complete sterilizing

THERMOSTATICALLY CONTROLLED in operation. Full instructions supplied with each appliance.

LIGHT AND HANDY
—made from special Aluminium Alloy.

ECONOMICAL

to operate and inexpensive to buy. Cost £16 16 0 (excluding gas ring and flexible tubing).

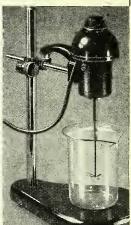


Write for leaflet to

JOSEPH SANKEY & SONS LTD., ALBERT ST. WKS., BILSTON, STAFFS

The popular Chemix MINOR reduced in price!





-made possible by increased demand and production.

Mixes quantities up to I gallon. Patent variable speed control. Easily]portable and accessible. Delivery from stock. New illustrated folder of CHEMIX MIXERS for all purposes now available.

F. & R. M. HARRIS (BIRMINGHAM) LTD.

Chemical Engineers

17-18 DOE STREET · BIRMINGHAM 4

Telephone: CENtral 5585

THE WORLD'S GREATEST BOOKSHOP

FOYLES F + FOR BOOKS + +

All new Books available on day of publication. Secondhand and rare Books on every subject. Stock of over three million volumes.

Subscriptions taken for British, American and continental magazines ; and we have a first-class Postal Library.

LARGE DEPARTMENT FOR MEDICAL BOOKS.

119-125 CHARING CROSS ROAD, LONDON, W.C.2

Gerrard 5660 (16 lines) ★ Open 9-6 (Thur, 9-7)

Two minutes from Tottenham Court Road Station

RIGHT AT THE START

I. HOLLAND LIMITED, Pioneers in tablet-making techniques.

PUNCHES AND DIES IN ANY SIZE

If you have a pressing need we would like your enquiries.

I. HOLLAND LIMITED

123 WATERWAY STREET, NOTTINGHAM

Ph. 88103

time saver

for the busy pharmacist

Here is a stirrer that will save you time and trouble. While you are busy on more important matters it will effectively stir and mix all forms of liquid and semi liquid. The model illustrated is one of a range of stirrers available with either fixed or variable speed mattors, and can be supplied with portable, fixed or side entry.

Your enquiries on the effective mixing of pharmaceutical products will receive our prompt attention.



Fluid Equipment company

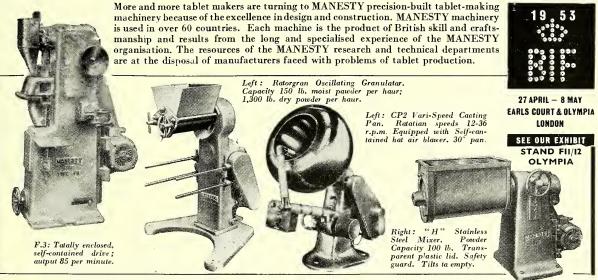
83z SEAFIELD ROAD, LONDON, N.11

TELEPHONE: ENTERPRISE 2565



TABLET - MAKING MACHINERY

Known for excellence throughout the world



MANESTY MACHINES LTD.

DEPT. 7

LIVERPOOL 19

Telephone: Hunts Cross 1972

Telegrams: Manesty, Liverpool 19

TABLET MACHINES

COATING PANS

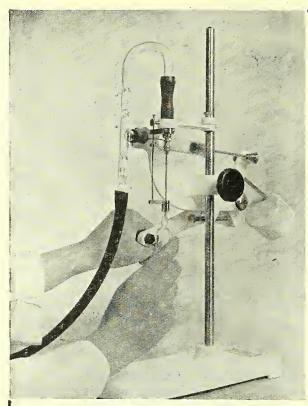
GRANULATORS

Have you this book?

"Tablet Making"—An authoritative volume by A. Little and K. A. Mitchell. 123 pp. 47 illus. 31 formulæ. Cloth bound. 15/- uet. Post free-

MIXERS

AUTOMATIC WATER STILLS



Visit us at the B.I.F. OLYMPIA, STAND J.I

The

'FILLMASTER'

Trade Mark

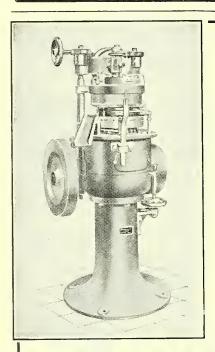
AMPOULE, BOTTLE AND VIAL FILLING MACHINE WITH AID-FILL AUTO-CENTRING FILLING STEM

Other Accessories available not shown here:
CAP-FILL TWIN NEEDLE FILLING STEM
and TRAY-FILL MOBILE FILLING STEM

Simple, Portable, Hand-operated, Low-priced Precision-built, Dripless Filling of pharmaceuticals, perfumes, inks, etc., into containers of $\frac{1}{2}$ c.c. to 40 c.c. at the rate of up to 1,000 per hour. ACCURATE DOSAGE

MARK-O-PRINT LIMITED

STATION PATH, PUTNEY BRIDGE STATION FULHAM, LONDON, S.W.6. Tel. RENown 4/35



ROTARY and SINGLE PUNCH TABLETTING MACHINES

OINTMENT MIXING and GRINDING MILLS

Punches and Dies for all types of tabletting Machines.

Presses and Moulds for Gelatine Capsules

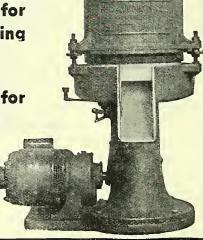


WESTERN ROAD, LEICESTER

Telephone: Leicester 21283.

Telegrams: Wilkinson, Leicester 21283

Engineers and Specialists in Pharmaceutical Machinery for over 45 years.





Some of the finest tubes and containers are produced by

UNIVERSAL METAL PRODUCTS LTD.

FORD 6 LANCS. Telephone: PENDLETON 1631-2-3
London Office: ARGYLE HOUSE, 29/31, EUSTON RD., N.W.1. Tel. TERMINUS 2073

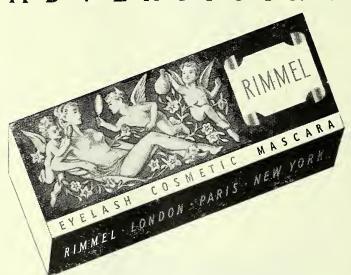


SINCE 1834 LONDON PARIS NEW YORK



ANNOUNCES

A NEW MASCARA BACKED BY NATIONAL ADVERTISING



THE ANNOUNCEMENT ON THE NEXT PAGE WILL APPEAR IN THE FOLLOWING PUBLICATIONS

VOGUE, whole page, April 24 • WOMAN'S JOURNAL, whole page, April 25 EVENING STANDARD, 8" double column, May 12 • WOMAN, whole column, May 14 MODERN WOMAN, half page, May 14 • WOMAN & BEAUTY, whole page in full colour, May 15 WOMAN'S OWN, whole column, May 21 • GOOD TASTE, whole page in full colour, May 29.

"On sale" dates are given in all cases. Total net circulation in excess of 6,000,000.

RETAIL 5/6 (INC. P.T.) TRADE 26/4 PER DOZEN. FROM WHOLESALERS OR DIRECT



A N N O U N C E S

A NEW MASCARA EYELASH COSMETIC FROM PARIS



WATERPROOF DOES NOT STING DOES NOT SMUDGE OR RUN

This is the latest development of the Mascara Eyelash Cosmetic which was created originally by Eugène Rimmel to emphasise the beauty of the eyes. It gives a lovely, lasting curl to each individual eyelash, encouraging the growth of the lashes and accentuating their colour, interest and appeal.

RIMMEL RENAISSANCE MASCARA 5/6

BLUE/BLACK, DARK BROWN, LIGHT BROWN, GREEN, BLUE



English-distilled and imported

ESSENTIAL

OILS CHAMOMILE • LAVENDER • PEPPERMINT CLOVE • CASCARILLA • OPOPONAX **ORRIS • PATCHOULI • NUTMEG** SANDALWOOD • CORIANDER Over a century's reputation for the finest qualities Send us your enquiries and orders

STAFFORD ALLEN & SONS LTD. Wharf Rd. London, N.1 CLErkenwell 1000

TAS/AL.386

This Handsome New Showcard

IN EIGHT COLOURS,

is just what you need to help your springtime sales of

SILCOT

COTTON-WOOL TOWELS

If you sell Silcot towels, the new showcard will help you to sell more. If you do not yet sell Silcot towels, here is a good opportunity to start. Silcot is a nationally advertised towel of the finest quality. It will bring you regular customers because women value the comfort and economy of Silcot no less than the competitive



price. And regular customers mean good repeat business for you.

YOU SHOULD ALSO STOCK





SILCOT SINGLE TOWELS

-supplied in attractive peach-and-blue cartons.

Silcot Single Towels (Size 1) in their neat cartons, which fit easily into the handbag, are useful for travelling. They are both convenient and comfortable. They will be wanted specially for holiday travel in the coming months. Get a stock now. Retail Each

Trade Price one doz.

4d.

COTTON-WOOL TOWELS

MACDONALD & SON LTD. · HOPE MILLS · POLLARD STREET · MANCHESTER, 4



for PROCESS PLANT

including Mixers • Blenders • Filter Presses • Hydro Extractors • Crushers Disintegrators • Driers • Ball Mills Tube Mills • Jacketed Pans • Glass lined, Rubber lined, and Stainless Steel equipment • Vacuum and Refrigeration Plant • Distillation equipment.

WOOD LANE, LONDON, W.12

'Phone: Shepherds Bush 2070 'Grams: Omniplant, Telex, London

STANNINGLEY, Nr. LEEDS

'Phone: Pudsey 2241 'Grams: Coborn, Leeds

GEORGE 500 COHEN

Detailed specification gladly sent on request. Send also for details of the famous Newman Labellers; Standard Machine, All Over Gumning Machine and Fully Automatic Machine for completely or partly labelling small cylindrical objects from §" to 1§" diam.

And at Kingsbury (Nr. Tamworth) 'Manchester 'Glasgow 'Morriston, Swansea 'Newcastle 'Belfast 'Sheffield 'Southampton 'Bath



D. TRAPOW & CO. LTD.

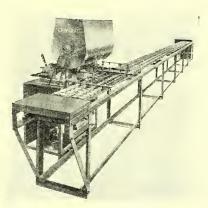
-just connect. One year's guarantee.

113/115a REGENT'S PARK ROAD, LONDON, N.W.1 Phone: PRimrose 6688

A selection from our range of FILLING MACHINES



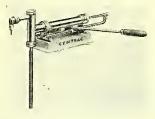
Miniature Filler, power-driven, for Ampoules and Bottles up to 3 c.c.



No. 24. High-Speed Filler for Tins, Pots and Jars. Filling speeds up to 200 containers per minute.



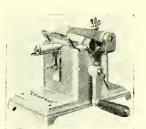
Power - driven Volumetric Liquid Filling Machine.



Hand-operated Volumetric Liquid Filling Machine.



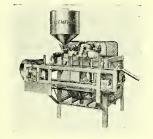
No. 5. Pots, Jars and Tin Filling Machine for Creams, Ointments and Heavy Pastes.



Hand - operated Tube Closing and Folding Machine.



Rotary Jar Filler.

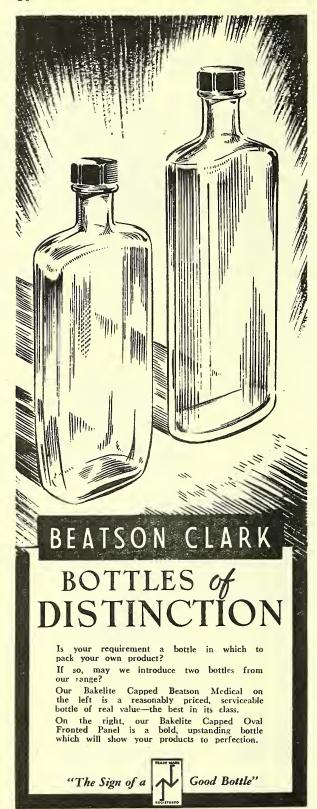


Automatic Tube Filling, Closing and Crimping Machine.

THE "CENTRAC" MACHINES

THE BANISTER STREET WORKS LIMITED 18a, b, c, De BEAUVOIR ROAD, LONDON, N.I

Telephone: CLIssold 8741



CLARK & CO., LTD. BEATSON.

GLASS BOTTLE MANUFACTURERS

ROTHERHAM Established 1751 YORKSHIRE

B.C. 70

THE **ADELPHI** BOTTLE WASHER

-it will solve your bottle washing problems



Prompt delivery—simple action thorough cleansing—complete emptying—wide range—any type of bottle. Sprinkler necks can be washed at the rate of 400 per hour. Connect to any mains supply tap. No skill needed.

Manufacturers and Suppliers of LABORATORY AND PHARMACEUTICAL EQUIPMENT

MANUFACTURING CO. LTD., 20-21 DUNCAN TERRACE, N.I

Phone: TERminus 2959

Mitchell MIXERS



... for the pre-emulsifying of creams

and for mixing medicines,





hand lotions and calamine lotions

L. A. MITCHELL LTD., 37 PETER STREET, MANCHESTER 2

Telephone : BLAckfriars 7224 (4 lines)



MX.54

PENICILLIN PREPARATIONS

LOZENGES · TABLETS · OINTMENTS Aids to Dispensing Outfits of Creams and Drops MANUFACTURED BY



MEDICINAL **PRODUCTS** MOORE

I QUEENS TERRACE ABERDEEN. Tel: 27233

64 GLOUCESTER PLACE LONDON, W.I. Tel: WELbeck 5718/9

Detailed Price List on Request.



NCOLA

(1-p-chlorobenzhydryl-4-m-methylbenzyl piperazine dihydrochloride)

B.D.H. ANTIHISTAMINIC THE

In hay-fever

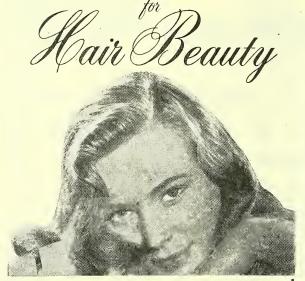
Notable for its long duration of action. Ancolan is exceptionally well tolerated. Treatment is inexpensive effective dosage in average cases is one to two tablets daily for one week, thereafter one tablet daily if required. Ancolan will also be prescribed in: Urticaria, Angioneurotic Œdema, Allergic Dermatoses, Pruritus, Allergic Conditions of the Eye and Travel Sickness.

Scored tablets of 25mg. Bottles of 25 3/8

PHARMACISTS Ancolan falls within the scope of the Fourth Schedule to the Poisons

THE BRITISH DRUG HOUSES LTD. LONDON N.I Anot/T/1







The favourite Colour Rinse of millions of women to-day. In an exclusive range of eight lovely shades that reveal the true beauty of natural hair colour. Retail Price 5d. Trade Price 2/- per doz. plus 100% P.T.



CAMILATONE

SHAMPOO AND COLOUR RINSE Colour-harmonised Camilatone Shampoo plus its matching shade of

Tonrinz, handily packed together in a Twin Pack. Retail Price 9d. Trade Price 3/8 per doz. plus 100% P.T.

CAMILATONE

astinte HAIR COLOUR COSMETI

For touching out the first signs of grey hair Easily applied and removed. In a range of natural shades in 2/6 and 5/- bottles. Trade Price per doz. 12/- Standard size, 24/- Large size, plus 100% P.T.



CAMILATONE Pair Conditioner

An after-shampoo conditioning treatment for hair that is dry and dull, bringing to it new life and beauty. Retail Price 2/6 per tube. Trade Price 12/- doz. Plus 100% P.T.

CAMILATONE

USTISET HAIR SETTING CREAM

Beautifies as it sets, bringing lasting loveliness to all types of hair. Retail Price 2/6 per tube. Trade Price 12/- per doz. Plus 100% P.T.

Attractive counter displays are available for all products

CAMILATONE LIMITED EDGWARE ROAD, WELSH HARP N.W.9

n-BUTYL (HLORIDE

Now available commercially. Manufacturers interested in utilizing this extremely useful butylating agent please contact the manufacturers

Messrs.

CHEMICALS LEDA

LIMITED

Wharf Road, Ponders End. ENFIELD, Middx.

HOWARD 2231

1896

P.A.T.A.

1953

The Proprietary Articles Trade Association ensures that its retail members (i.e., chemists) obtain a fair and guaranteed profit on their sales of proprietary articles.

The P.A.T.A. List includes proprietary medicines, veterinary preparations, antiseptics and disinfectants, infants' and invalids' foods, perfumery, cosmetic and toilet prepara-

To All the Proprietary Articles included in the P.A.T.A. List fixed retail prices are attached and enforced.

Retail Section. Admission to the Retail Section is restricted to persons, firms or bodies corporate whose names appear in the statutory register of pharmaceutical premises, The annual subscription to the Retail Section is 10s, 6d, Chemists who are Members of the N.P.U. may pay their P.A.T.A. subscription through that body.

Direction of Sales. It is the Council's policy to recommend manufacturers of medicinal and surgical proprietaries included in the P.A.T.A. List to do their utmost to promote the sale of such articles through chemists.

Manufacturers of Proprietary Articles (sold by chemists) who are not at present Members of the P.A.T.A. are invited to join the Association. Annual subscription £8 8s. 0.

Issued by

The Proprietary Articles Trade Association

Gordon Square, London, W.C.1

Telephone: EUSton 3275

Have you booked your

CORONATION DISPLAY?



The attractive Coronation display above is free to every Wisdom stockist. Dimensions are $15\frac{1}{2}$ " high, 21" wide, 6" deep. It is printed in 7 colours. Despatch will be made at the end of April. If you have not yet reserved one from your Addis service representative, send off the coupon on the right as soon as possible, as supplies are limited.

TO: ADDIS LTD., BRUSHWORKS, HERTFORD

Please send me a Coronation display as photograph above.

Name and address (Use label, rubber stamp or block letters)

Another new Gerhardt product



DIHYDROXY ALUMINIUM AMINOACETATE Manufactured to the United States N. N. R. specification. Prices and technical data on request.

DETHMOR-WARFARIN

Botanical drugs and fine chemicals

Our range includes: BLACK HAW, CASCARA, LOBELIA, OPIUM, STAR ANISE ADRENALIN, ATROPINE, AMINOPHYLLINE, CAFFEINE, CAMPHOR, CHLORAL HYDRATE, 8-HYDROXYQUINOLINE, LOBELINE, MENTHOL, PHENACETIN, THEOBROMINE, THEOPHYLLINE.

C. F. GERHARDT LTD.

5 Fenchurch Street, London, E.C.3

Telephone: MANsion House 5095

EADE'S PILLS & ANODYNE

OINTMENT

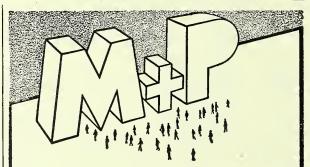
A 100-year old reputation for efficacy in the relief of the pains of Rheumatism, Gout, Lumbago, Sciatica & Neuritis.

C.F. P.A.T.A.



EADE'S PILLS		EADE'S ANODYNE CINTMENT		
	TAIL Pur. Tax)	WHOLESALE (Plus Tax)	RETAIL (inc. Pur. Tax)	WHOLESALE (Plus Tax)
1	1/10 1/- 6/9	13/3 doz. 28/9 doz. 48/6 doz.	1/10 4/-	13/3 doz. 28/9 doz.

EADE'S PILLS LTD. (Dept. C & D) 232 Goswell Road, London, E.C.1. Clerkenwell 3370



A Permanent Medical Exhibition in miniature

ONE of the most comprehensive displays of chemists' sundries, drugs, dressings and ethica medical products to be found in the provinces may be seen in our show-rooms, where a trained staff is always in attendance to advise where necessary. Pharmacists are cordially invited to call or to send their enquiries.

MAWSON & PROCTOR PHARMACEUTICALS LTD

LOW FRIAR LANE, NEWCASTLE-ON-TYNE
Telephone: 27074 (4 lines)

FEEDRITE

Makes news! GREAT NEW



NATIONAL ADVERTISING CAMPAIGN!

22,000,000

potential customers from John O'Groats to Lands End -thats the audience for our new campaign—a forceful campaign designed to bring them into your shops with money to spend! When you stock Fcedrite products you stock a branded article, nationally advertised, with a reputation which ensures trouble-free sales.

WE SUPPORT YOU IN THESE NATIONAL PAPERS:-

Midwives Chronicle **Nursery World** News of the World The People Sunday Express Daily Mirror Daily Mail **Evening News** Radio Times **Evening Standard**

Glasgow Evening News Edinburgh Evening News **Dundee Evening** Telegraph Glasgow Bulletin Childhood Mother Home Notes Home Chat

In addition to this, continuous medical propaganda is directed to Medical Officers of Health, Midwives, Health Visitors, Clinics, the medical profession and hospitals, through the medium of their professional journals, by mailings, and by direct contact.

★ FEEDRITE BABY FEEDER (Complete with Feedrite Bottle, Anti- Colic Teat, Thermal Heat Retaining Pads and Plastic Container).	Public 5/- Complete	Chemist 45/- per doz.
★ FEEDRITE SPARE BOTTLES	1/3	11/3
★ FEEDRITE SPARE THERMAL HEAT RETAINING PAD SETS	each 1/3 per set	per doz. 11/3 per doz. sets
★ FEEDRITE ANTI-COLIC TEATS (Cherry or straight)	7½d each	67/6 per gross
★ FEEDRITE RUBBER BOTTLE STOPPERS	7½d each	67/6 per gross

SPECIAL BONUS OFFER!

Buy a dozen of any FEEDRITE product from your usual wholesaler and you will receive a bonus of 13 to the dozen. This offer finishes April 30th.



This is the TEAT that will not go flat as baby sucks.

ATTRACTIVE SALES MATERIAL!

To assist your sales we have prepared a range of forceful showcards and leaflets, attractive and sales compelling. This material is entirely free to you and will be gladly supplied on request. WRITE NOW!

IT PAYS TO HANDLE

LIMITED

300, KINGSTON ROAD, MERTON PARK, S.W.20.



John Morrell & Co. Ltd., are pleased to announce a reduction in the price of Red Heart from 1/- to 10½d. per 8 oz. tin, effective on Monday, April 13th with corresponding adjustments in prices to the

Trade. Supplies are plenti-

ful once more and Red

Heart can therefore

be freely displayed.

Order now.



RED HEART

canned dog food

A PRODUCT OF JOHN MORRELL & CO. LTD., LIVERPOOL & LONDON



MADE BY RAYNER AND COMPANY LIMITED, LONDON, N.18



PENICILLIN INHALATION SET

FOR NASAL AND ORAL INHALATION

Each set contains one inhalator and two vials each containing three capsules each 100,000 units crystalline penicillin potassium salt RETAIL 16/-

ALSO SUPPLIED SEPARATELY

I INHALATOR RETAIL 5/
BOX 6 CAPSULES RETAIL II/-

I BOX 9 CAPSULES RETAIL 14/-

ALLOWED ON E.C.IO FORMS

EXEMPT FROM PURCHASE TAX

. THE ARMOUR LABORATORIES

LINDSEY STREET LONDON E C.I

Telephone: Clerkenwell 9011

Telegrams: "Armosata-Phone," London



MAX FACTOR HOLLYWOOD & LONDON (SALES) LTD. 16, OLD BOND STREET, LONDON, W.I. REGENT 6720

TUNGLOSE

BRAND

PURE MEDICINAL
POWDERED GLUCOSE

(Dextrose Monohydrate)

Ask your Wholesaler

TUNNEL GLUCOSE REFINERIES LTD.

Kirkman House,

54a Tottenham Court Rd., London, W.I

Telephone: Langham 6972/7

Works: Tunnel Avenue, Greenwich

HOME TRADE



EXPORT

PSYLLIUM SEED SABADILLA SEED QUINCE SEED STAVESACRE SEED

and all other Botanicals, Gums, Waxes, Essential Oils and Spices

JOHN KELLYS (LONDON) LTD. 24 OLD BROAD STREET, E.C.2

> Telephone: LONdon Wall 4882, 6585, 6586 Telegrams: "Ergotine, Stock, London"

NEW YORK · AMSTERDAM · HAMBURG

GALLIC ACID PYROGALLIC ACID

(RESUBLIMED, PURE CRYSTAL AND TECHNICAL

AND DERIVATIVES

WHOLESALE AND EXPORT ONLY

J. L. ROSE, LIMITED, ABBEY ROAD, BARKING, ESSEX

A FREE WINDOW DISPLAY TO HELP YOU SELL MORE

AURORAL

COLD WATER DYES

In all fashionable shades, including the new Coronation Colours (Elizabethan Red, Spun Gold, and Beau Blue)

48/- gross: Retail 6d. pkt. (P.A.T.A.) Less 5% for cash in 7 days These dyes carry a bigger profit margin than others and now, to help you sell more, we offer, free of charge, a Special Window Display dressed by specialists. This, with our extensive advertising in women's magazines, can mean record sales for you this Season. Write at once to:

LUTON

STRAW HAT DYES

Standard range of twelve colours. Dull or glossy series; supplied complete with brushes for applying the dye.

Large size 18/- per doz. Retail (P.A.T.A.) 2/- per bottle Small size 13/6 ,, ,, ,, ,, 1/6 ,, ,,

Less 5% for cash in 7 days

WHITAKER & CO. (KENDAL) LTD.

DYE AND CHEMICAL MANUFACTURERS — KENDAL



AEROSOLS

4 oz. . 5/6 RETAIL

ADDITIONAL SPECIAL DISCOUNT UNTIL APRIL 30th

5% on 4 doz.—6 oz.

"BEST EVER" PARCEL OFFER . FOR OTHER SECTO PRODUCTS

15°/ SPECIAL DISCOUNT ON ORDERS OF £10 VALUE

12½°/.

BASED ON GENEROUS TRADE LIST PRICES

HANDSPRAYERS CAN BE INCLUDED TO MAKE UP VALUES BUT DISCOUNT on SPRAYERS is 10% on £10 VALUE

5% on £5

Rapid Sellers Include :-

I/3 POWDER — I/9 LIQUID

NEW 9d POWDER (3d Doz. Discount on 6 Doz. Lots)

ATTRACTIVE NEW DISPLAY MATERIAL AVAILABLE

PRICE LIST ON REQUEST

SEND YOUR BONUS

ORDER



CUPAL LIMITED. BLACKBURN LANCS. MANUFACTURING CHEMISTS

STILL THE **FAVOURITE**

Sales of this complete Boil Treatment continue satisfactorily.

NOW is the time to display it on the counter.



Add it to your order for Carnation Corn Caps, Zinc Oxide, Adaptoplast, Variban and other plasters to make up a £5 or £10 parcel for extra discount.

NOTE THE PROFIT-

RETAIL PRICE—1/6 BOX (inc. tax). TRADE—9/9 DOZEN+3/3 P. TAX

£5 ORDER—less $2\frac{1}{2}\%$

£10 ORDER—less 5%

These discounts apply to purchases of all our plasters whether bulk or proprietary

Cuxson Gerrard & Co. Ltd.
OLDBURY BIRMINGHAR PRODUCT OF **OLDBURY BIRMINGHAM**

RADIAN advertising UP by 50% this season

IT INCLUDES

NEWS OF THE WORLD. PEOPLE, DAILY TELEGRAPH **BIG CIRCULATION WOMEN'S** MAGAZINES AND A LONG LIST OF LEADING LOCAL NEWSPAPERS PROFESSIONAL JOURNALS & SPORTING MAGAZINES

Please make sure you have stocks to meet the demand. Special discounts for display. Full details from:



Telephone: VANdyke 1642 and 2692 78 UPPER RICHMOND ROAD LONDON, S.W.15 LIMITED

Important Announcement PRICE REDUCTION!

From April 15th

the price of 8-oz. Cans of

WILL BE REDUCED TO

Now within the reach of all cat owners—exactly the same high quality and the same pack as previously. Make sure you participate in the extra sales by re-ordering!

THERE WILL BE NO CHANGE IN THE PRICE OF-DOG

The 8-oz. cans will remain at $10\frac{1}{2}$ d.

Both these lines are extensively advertised and show a generous profit margin to the trade. Write for terms, Showcards and Advertising material to WILES · WOODMANSEY · BEVERLEY · YORKS Only
Wisdom
has
Flextron*



*
Flextron

combines the liveliness of natural bristle with the long life of nylon

THE WISDOM FLEXTRON BRUSH is presented in a rigid all-plastic V-pack with transparent case and a white platform. Three textures—medium, hard, extra hard. Sold for 2/3d., giving you a very generous margin. Full scale national advertising is now appearing. Order through your wholesaler.



KILLS WOODWORM

Record sales have proved the public's TIMBER appreciation of RENTOKIL stocks FLUID. ALWAYS hold adequate stocks of this outstanding woodworm preven-tive. Retails at 2/-, 3/3, 5/9, 9/6 and in bulk. Send NOW for attractive trade terms of all Rentokil Products. RENTOKIL LTD. (Dept. 18) FETCHAM, LEATHERHEAD, SURREY

Tel.: Leatherhead 4021-2

INCREASED VALUE

The complete outfit now consists of a 16 oz. tin (Double the quantity of fluid) and Injector for

10/6



C. & D. REFRESHER COURSE

for Pharmacists

up to the minute information-compiled by a team of experts-reprinted from "The Chemist & Druggist"

THE PH SCALE **EMULSIONS AND EMULSIFYING AGENTS ASEPTIC TECHNIQUE EMULSIONS AND OINTMENT BASES** NAMING OF ORGANIC COMPOUNDS **ANTIBIOTICS** DISINFECTANTS AND ANTISEPTICS BARBITURATES ISOTONIC SOLUTIONS **HORMONES** THE PREPARATION OF STERILE

THE SULPHONAMIDES **DEPOT MEDICATION NEUROMUSCULAR AND GANGLIONIC BLOCKING AGENTS**

ANTIHISTAMINES ANALGESIC DRUGS ANAEMIA AND LIVER ANTICOAGULANTS **BLOOD PRODUCTS AND PLASMA SUBSTITUTES CHEMISTRY OF THE HORMONES** CHEMISTRY OF THE BLOCKING AGENTS

PRICE 3/= postage 2d.

MEDICAMENTS

Send remittance with order to:-

The Publisher The CHEMIST & DRUGGIST 28 ESSEX STREET · STRAND · LONDON, W.C.2

TRESS still goes on breaking sales records

TRADE PRICES

Sells at 2/11 per bottle giving many applications

Your cost: 14/3 per dozen, plus 100% purchase tax

Your profit: 6/6 per dozen

Marketed by GOLDEN LTD., 2/4 DEAN ST., LONDON, W.I. Tel: GER 4926

ERMOMET

When ordering Thermometers, insist upon Brannans - made by highly skilled workers at Britain's most modern Thermometer Factory.





seal them

SPEEDILY

SEGURELY

ATTRACTIVELY

Let us help you solve your

own sealing problem

JOHN GOSHERON & COLTD GAYFORD ROAD LONDON W12

Ammonium Carbonate

Chalk-Precipitated and Prepared Cresylic Acid · Coal Tar Disinfectants

Emulsifiers • Magnesium Carbonate (Pond.)

Synthetic Detergents · Naphthaline Toluene · Xylene · Zinc Oxide

DUNN **BROTHERS'**

SUCCRS. LTD

I BOOTH STREET, MANCHESTER Established 75 years

TONGUE DEPRESSORS

IMPORTED-PRE-WAR QUALITY

Size 6 in. $\times \frac{3}{4}$ in $\times 2$ mm. thick. Danish beech, each one perfectly finished. Over six million were sold last year without a single complaint.

Price to trade (boxed 100's) per thousand Minimum order 10,000

FREE OFFER As an introduction a box of 100 will be supplied absolutely free to any genuine trade house on application Spatulas and applicators also supplied. Write for prices.

ASHWOOD TIMBER INDUSTRIES LTD.

Specialists in Veneer and Plywood products for all trades IBEX HOUSE, MINORIES, LONDON, E.C.3 Tel: ROYal 2494 Cables: ASHTIM, LONDON

Always in demand! THOMAS HARLEY LTD., PERTH, SCOTLAND

IS IT A POISON?

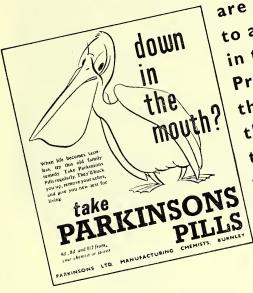
For quick and easy reference use the C & D' POISONS GUIDE, Vol. I

PRICE £1, POSTAGE 6d. EXTRA

THE CHEMIST AND DRUGGIST
28 ESSEX STREET, STRAND, LONDON, W.C.2



These eye-catching ads



are booked to appear in the Press throughout the country to help you



SELL **PARKINSONS** More repeat sales!

LIMITED PARKINSONS

MANUFACTURING CHEMISTS · BURNLEY

ORDER ONE ONE ACCOUNT ONE DELIVERY

Whether your requirements are small or large, you save time and trouble by ordering your Photographic Supplies from Fallowfield. We hold the largest wholesale stock in the country and guarantee prompt delivery. Our expert advice, based on a lifetime's experience of the photographic world is always at your disposal.

AGFA AKRON ADEMCO TAYLOR-HOBSON

The street of th

74 NEWMAN ST. LONDON W.I. MUSEUM 7401-2-3

HUGHES

introduce crimped nylon tufts IN THE

new Demure

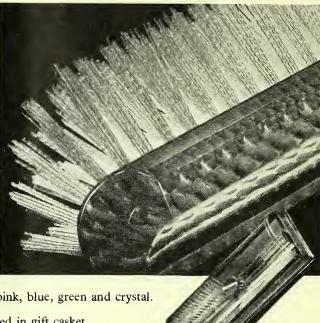
New CRIMPED NYLON

tufts to brush hair cleaner than ever before.

Delicate design of back and

handle makes DEMURE the

"aristocrat" of radials. Available in



transparent pastel pink, blue, green and crystal.

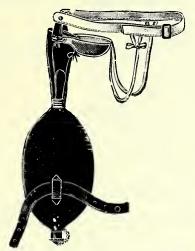
Presented in gift casket.

RRUSHES LTD

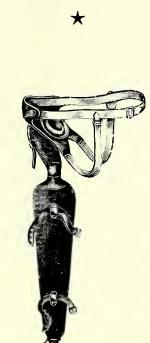
240/242 BATH ROAD, SLOUGH, BUCKS. 'PHONE: SLOUGH 23218



SURGICAL APPLIANCES



No. 17. Male, for Day or Night



No. 16. Male, for Day or Night



No. 12. Male, for Day or Night

No. 13. Male, for Bed Use, with Long Tube

A FEW SAMPLES FROM OUR EXTENSIVE RANGE OF PORTABLE URINALS

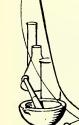
- DETAILS AND PRICES ON REQUEST -

BRITTON MALCOLM & CO. Ltd.

38-SOUTHWARK BRIDGE ROAD - LONDON - S - E - I

WAT: 4874/6

DEPENDABLE



SURGICAL DRESSINGS

SPECIALISTS in the Manufacture of

PURE WHITE ABSORBENT GAUZES, AND BANDAGES

Hospital and B.P.C./N.H.I. Qualities
Plain and Sterilised



WOVEN BLEACHED AND PACKED IN OUR MODERN HYGIENIC FACTORIES

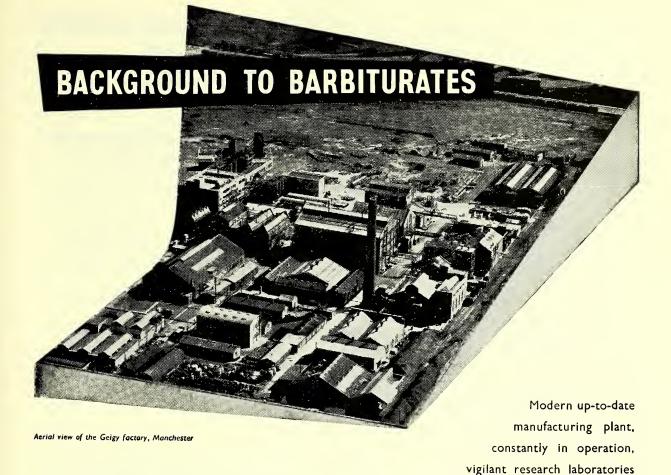
AT

DUDLEY AND BLACKBURN



SUPPLIERS TO GOVERNMENT DEPARTMENTS, HOSPITALS, WHOLESALERS, ETC.





PHENOBARBITONE B.P.

PHENOBARBITONE SODIUM B.P.

BARBITONE B.P.

BARBITONE SODIUM B.P.

BUTOBARBITONE B. P. C.

AMYLOBARBITONE B.P.C.

AMYLOBARBITONE SODIUM B.P.C.

CYCLOBARBITONE B.P.C.

CYCLOBARBITONE CALCIUM

HEXOBARBITONE B.P.

METHYLPHENOBARBITONE B.P.

QUINALBARBITONE SODIUM B.P.



PHARMACEUTICAL LABORATORIES GEIGY LTD

Rhodes.

Middleton.

MANCHESTER

admirably equipped ... that is the impressive, present-day background to the Geigy pro-

duction unit. Barbiturates are

produced at the Geigy factory in Manchester to exacting

standards of quality, and in

a steadily expanding range.

FC. 15



additional appeal of the new safety shape bottle. The strong advertising campaign in the National and Provincial press and magazines with the National Poster campaign ensures big sales—stock up NOW with:—

DRUMMER PINE

Made by DISINFECTANT WM. EDGE & SONS LTD., BOLTON



The makers of

Wimzo

the Chlorophyll hand cleansing jelly advertised in National Newspapers are also the sole suppliers

WIMSOL LIMITED · KEIGHLEY · YORKS

Keighley 4218

Wimzo sells to mechanics, engineers, and all who do dirty jobs; plus motorists and motor-cyclists. Wimzo is a fast-acting, non gritty and gentle emollient which floats grease and dirt to the surface from every pore to leave hands scrupuiously clean.

Please send for terms



WHAT IS BEST?

Agracolor

processed and finished by

TEMPO LABORATORIES LTD

80 St. JOHNS ROAD TUNBRIDGE WELLS

TELEPHONE: 21019

FULL TRADE DISCOUNT

FERRIS & COMPANY, LTD.

BRISTOL

MANUFACTURING AND WHOLESALE CHEMISTS

The House in the West for all Chemists' Supplies. Send us your orders for prompt and careful attention.

REGULAR ROAD DELIVERIES

in the West of England and S. Wales areas.

Telephone: BRISTOL 21381

Telegrams FERRIS BRISTOL

Show 'Elasto' — It Sells on Sight! *



ELASTO advertising is widespread and consistent. A steady demand for this fine product is being created at your very door. Link up with this vigorous campaign by reminding your customers that YOU can supply. Your PROFIT IS ONE SHILLING AND SEVENPENCE on each sale!

★ Novel Display Stand free on request
NEW ERA LABORATORIES LTD.
CECIL HOUSE · HOLBORN VIADUCT · LONDON

POLYVALENT INTESTINAL BACTERIOPHAGE

Enterofagos

The biological answer

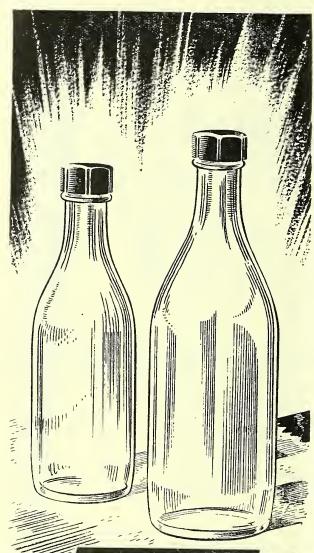
ENTEROFAGOS is one of the series of M.B.L. preparations which enjoy the confidence of the Medical profession in this country and overseas. By prolonged laboratory and clinical tests it has been established as the biological answer to most intestinal, para-intestinal, kidney and bladder infections.

ENTEROFAGOS contains the active bacteriophages against Staphylococci, Streptococci, B. coli, B. Typhosus, B. paratyphosus, B. dysenteriae and Enterococci. Whatever the dosage, it can be given to adults or children without fear of harmful reactions, and this combination of efficacy and safety makes ENTEROFAGOS the ideal treatment for the infective conditions indicated.

The preparation is contained in ampoules to be taken orally according to the instructions supplied.

Most cases of Diarrhoea respond rapidly to treatment with ENTEROFAGOS. Colitis, Enteritis, Entero-colitis, Typhoid and Paratyphoid Fevers, Bacillary Dysentery, B.Coli Infections, Food Poisoning are equally responsive to its treatment.

MEDICO-BIOLOGICAL LABORATORIES LTD CARGREEN ROAD, SOUTH NORWOOD, LONDON, S.E.25



BEATSON

BAKELITE CAPPED

Champagne Oils

These bottles greatly enhance the presentation of packed oils. They are available in $2\frac{1}{2}$ oz., 5 oz., 10 oz., and 20 oz. capacities.

BEATSON CLARK & CO., LTD.

Glass Battle Manufacturers

ROTHERHAM

Est. 1751

YORKS

"The Sign of a



Good Bottle"

For easy profits

display

BESORBON

- perfect remedy

for colds, catarrh, hay fever, etc.

Known and trusted for 50 years

BESORBON SELLS ON SIGHT!

Stocked by principal wholesalers throughout the British Isles.

KEMSALES LTD. 20 EASTCHEAP, LONDON, E.C.

P.A.S. GLYCINE FERROUS GLUCONATE ISONIAZID

HALEWOOD CHEMICALS LIMITED

III-II5 EASTBOURNE MEWS, PADDINGTON, LONDON, W.2
AMBASSADOR 4198



2½d. STOCKING (except Black)
4d. COLD WATER, CURTAIN
and Black Stocking Dyes

20/- gross

32/- g

Order Dyes and Shade Cards from our Agents
Gt. Britain: W. B. Cartwright Ltd., Rawdon, Leeds
N. Ireland: T. McMullan & Co., Ltd., 42 Victoria
Street, Belfast. Eire: May Roberts (Ireland) Ltd.,
Grand Canal Quay, Dublin, C.6.

How JEYES'

Here's the famous and widely advertised Jeyes' Fluid. Make full use of this smart, new 3-colour display case for the 5-oz. bottle in your windows and on counters.



GENEROUS QUANTITY DISCOUNTS...

You make your profits substantially higher simply by seeing that your order qualifies for these generous quantity discounts which are available on all Jeyes' popular products. Write for particulars.

JEYPINE · JEYES' FLUID TOILET PAPER (Jat packs or holls) . TOILET SOAPS, etc.

Síze 5 oz.	Trade Príce 10s. 6d. per doz.	Standard Margin less 25%	Retail Price 1s. 2d.
10 oz.	15s. Cd. ,, ,,	,, ,,	1s. 8d.
Quart tin	40s. 6d. ,, ,,	,, ,,	4s. 6d.
Gallon tin	10s. 3d. ,, ,,	" "	13s <mark>. 9d.</mark>

UP TO 32 % PROFIT ON JEYES' PRODUCTS

JEYES' SANITARY COMPOUNDS COMPANY LIMITED, MILLBROOK, MANOR ROAD, CHIGWELL, ESSEX



Grosvenor Gardens House, Grosvenor Gardens, London, S.W.I.

WIDE MOUTHED 2 PINT VACUUM JAR Model J.101

2 PINT VACUUM **FLASK** Model Q.F.

I PINT VACUUM FLASK Model S.C.

I PINT PLASTIC VACUUM JUG Model P.J.



At five to six months of age babies make the change-over to mixed feeding—and more and more of them are going on to Bovril Brand Weaning Food.

You, too, can make a big change-over. Stock this quick-selling, super-successful new product. Give it good counter display. Tell mothers about it. It will pay you handsomely.

BOVRIL WEANING FOOD is a winner because it is:

recommended by doctors and clinics
vigorously advertised - made in cube form
very economical - free from food infection
nourishing and easy to prepare

BOVRIL BRAND

Triturated Beef and Vegetable

Weaning Food

Retail price 6^{D.} 4 cube packet

For full particulars of trade terms please write to:—BOVRIL LIMITED. OLD STREET, LONDON, E.C.I



The biggest-ever publicity campaign for Andrews Liver Salt is now in full swing. Andrews advertisements are seen everywhere — in National Daily and Sunday newspapers and Weekly magazines, on the hoardings, on the sides of buses and in the shops. And remember — this advertising is *your* advertising, if you're an Andrews stockist. Make sure you have adequate stocks of the effervescent saline with the largest sale in the world.

ANDREWS

LIVER SALT

GT67/a9/53

BONUS OFFER ENDS APL.30th.

Order TO-DAY to qualify for Special Bonus Discounts on

Orders placed on or before April 30th 1953 receive:

5% BONUS

2½% BONUS

PARCEL 'D' . . . 2-doz. x 6oz.

| 1-doz. x 6oz. | 1-doz. x 6oz. | 2-doz. x 12oz. | 2-doz. x

COOPER'S

HOUSEHOLD

AEROSOL

Hurry, hurry! Act *now* to secure your Bonus Discount on Cooper's Household Aerosol. To qualify, your order must be received by April 30th — *there will be no extra bonus after that date*. Choose your stock from the parcels on the left — and quote the code letter when ordering. Do it *now* — and be prepared for an early season!

STOCK UP NOW .

EXTENSIVE
NATIONAL ADVERTISING
STARTS IN MAY

COOPER, McDOUGALL & ROBERTSON LTD., BERKHAMSTED, HERTS. EST'D. 1843

Scottish Office: 62 ROBERTSON STREET, GLASGOW, C.2





UNITED GLASS BOTTLE MANUFACTURERS LTD

8, LEICESTER STREET, W.C.2 · Telephone: GERRARD 8611 (18 Lines) Telegrams: UNGLABOMAN, LESQUARE, LONDON

500,000 UNITS



OR 200,000 UNITS

PENICILIN°G°

oral tablets

'Avlon' brand

Available in two	o strengths:	PRICE PRICE (EACH) (EACH)
(a) 200,000 unit	ts. Tubes of 10 table	ts 6/9 4/6
	Bottles of 100 table	ts 60/- 40/-
(b) 500,000 uni	ts. Tubes of 10 table	ts 16/6 11/-
	Bottles of 100 table	ts 150/- 100/-
		(Exempt P.T.)

'Avlon' brand Penicillin G Tablets for Oral Medication, tubes of 10 are issued in dispensing packs with tear-off labels.

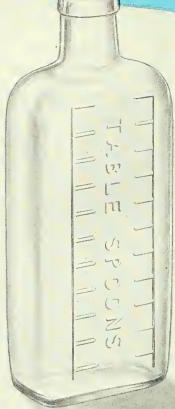


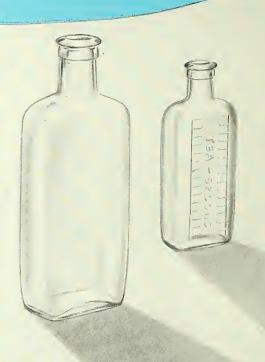
IMPERIAL CHEMICAL (PHARMACEUTICALS) LIMITED

A subsidiary company of Imperial Chemical Industries Limited

WILMSLOW, MANCHESTER







1-oz. to 20-oz.

BOW-FRONT PANELS 1-oz. to 8-oz.

DISPENSING BOTTLES

TABLET BOTTLES

Nos. 1 to $7\frac{1}{2}$ sizes.

ROUND SCREW JARS

Tall and Semi-squat.

RIBBED OVALS

 $\frac{1}{2}$ -oz. to 16-oz.

PANELLED FLATS 1-oz. to 4-oz.

OLIVE OIL BOTTLES $2\frac{1}{2}$ -oz., 5-oz. & 10-oz.

VIALS

 $\frac{1}{2}$ -oz. to 3-oz.

WHOLESALE ONLY

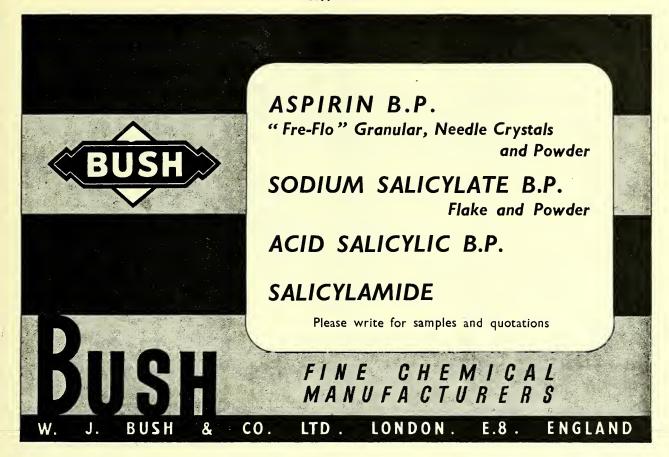
Prompt delivery from stock

• Packe: in easily handled cartons

NATIONAL GLASS WORKS (YORK) LTD.

FISHERGATE, YORK, Tel. YORK 3021 ALSO AT 105 HATTON GARDEN, LONDON, E.C.1





IN THOSE CASES WHERE BREAD IS PERMITTED, THE

Proceas Siabetic Loaf

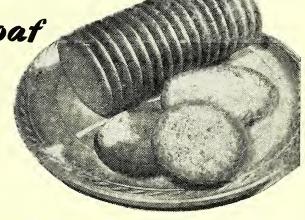
IS INDICATED BECAUSE . . . it is attractive and palatable, while at the same time it conforms to medical requirements, as a study of the Average Analysis will show. This acceptable and nutritious Diabetic Loaf is in fact useful in any diet designed to reduce starch intake or to increase dietary protein.

AVERAGE ANALYSIS

★ One ounce of this bread at 30% moisture content contains:—

Protein ... 6.5 grams
Mineral matter ... 0.5 grams
Fat ... 2.5 grams
Carbohydrates ... 10.5 grams
Protein-Carbohydrate
ratio ... 1 to 1.6 approx.
Carbohydrate content per

slice ... 2.5 grams. approx.

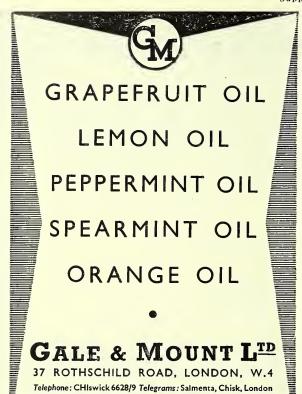


DESIGNED FOR EASY MEASUREMENT

An interesting feature of this Procea loaf is that its exterior is ribbed. This allows the amount of bread to be pre-determined with some degree of accuracy.

The Procea Diabetic Loaf is baked to the formula prescribed by medical authorities for the attainment of a suitably low starch content for the diabetic subject, and is obtainable from authorised bakers, chemists, health stores, etc. For further particulars, please write to the address below—giving, if possible, the names and addresses of your local bakers or other stockists.

PROCEA PRODUCTS LIMITED., Procea House, 47, Dean Street, London, W.1





WIDOW WELCH'S FEMALE PILLS

9d. BOX PROFIT by ordering I dozen 3/3½ size. Bonus given on every dozen (13). It pays to push this size.

Established 1787 in the Reign of King George III

411

C. & G. KEARSLEY LTD. 71 DARTMOUTH ROAD, LONDON, S.E.23

"Sweetheart"

"Drinkrite"

DRINKING STRAWS

special SMALL PACKS of 25, 50 and 100 straws. Order now and INSIST on these brands for QUALITY. HYGIENIC DRINKING STRAWS CO. LTD., LARKHALL, Lanarkshire

TO SELL



By Appointment to the late King George VI

BRAND VACUUM FLASKS, JUGS & JARS



THERMOS (1925) LIMITED, SEYMOUR ROAD, LEYTON, LONDON, E.16

REPUBLIC OF

Old established Dublin firm can undertake

MANUFACTURING · PACKING · DISTRIBUTING

Our factory is fully equipped with modern automatic machinery for the filling af liquids, pawders and creams into battles, tins ar tubes etc.

Our distributive organisation covers all chemists, large stares, gracery and chemist-wholesalers, etc., every ten weeks. Own van deliveries throughout the cauntry.

weens. Own van activeries inroughout the cauntry.
One of our directors will be available for interview in
England, April 27th—May 2nd.

VICTOR E. HANNA LTD 68/72 Lower Mount Street, Dublin, C.6

Although short dated and slightly out of date ALL THESE "GUILLEMINOT" FILMS ARE FULLY GUARANTEED for 6 months from date of purchase.

127, 3 for 3/- (10/6 doz.), Pan or Chrome; 120, 2 for 2/9 (14/9 doz.), Panchro only. 620, 2 for 2/9 (14/9 doz.), Pan and Chrome. 116, 2 for 2/9 (14/9 doz.), Pan and Chrome. 35 mm. (with cassette), Panchro, 4/9 each (48/- doz.). Special Terms for large quantities. All orders Post Free. Cash or Cheque with order. C. & G. S. TRADING COMPANY, Drighlington, Nr. Bradford, Yorks. Tel.: Drighlington 371/2

WANT

Sole Manufacturers:

JEFFREYS, MILLER & CO. LTD., Leyland Mills,

Wigon. (London Deportment 19 Brookside Rd. N.) BECAUSE OF THE BUTTERSCOTCH FLAVOUR



Manufactured England by BROOK, ' PARKER BRADFORD CO. LTD.,



Mysore Government Sandalwood Oil consignment being loaded at Bombay Port for transhipment to London Stock of the Trade Agent, per Air India International planes maintaining a 24 hour service between India and U.K.

Sandalwood Oil

For further information apply to:

TRADE AGENT FOR MYSORE

9 Clifford Street, London, W.1

Expert Guidance in . . .

TRUSS FITTING

Under the National Health Service these appliances can be ordered on EC 10 forms.

Pharmacists should be fully acquainted with the practical details involved in the supplying and fitting of them.

The informative series of articles on the subject recently published in "The CHEMIST AND DRUGGIST" have been reprinted in booklet form, "THE FITTING OF TRUSSES AND ELASTIC HOSIERY", which provides full information in concise detail. Copies should be handy for reference purposes in every pharmacy.

Supplies are now available at the following prices:-

Single copies 1/6 post free. 1 doz. copies . . . 1/4 each post free.

2 doz. copies . . . 1/3 each post free. 50 copies or over 1/- each post free.

Orders with remittance to the Publisher

The CHEMIST AND DRUGGIST

28 ESSEX STREET, STRAND — LONDON, W.C.2

EPHAZONE

TABLETS

Rational, symptomatic treatment in

ASTHMA & BRONCHITIS

Each tablet contains Ephedrine, the important anti-spasmodic for bronchial spasm, Theobromine, for its relaxing effect on the bronchial muscle and for stimulation of the coronary circulation, Phenazone, for its soothing effect on the higher centres, and Calcium gluconate, a readily absorbable calcium salt, for diminishing capillary permeability and checking the secretion of mucus.

These active ingredients with complementary effects in bronchial asthma are presented in the following proportions in the 'EPHAZONE' Tablet:

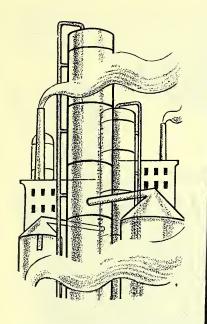
Ephedrine

hydrochloride - - - $\frac{1}{4}$ grain Theobromine - - - $\frac{1}{2}$ grain Phenazone - - - 1 grain Calcium gluconate - - $\frac{1}{4}$ grain

This preparation is sanctioned for prescription under N.H.S.

EPHAZONE LTD. 59 Brook St., London, W.1. Tel: Mayfair 5496

CENTENARY 1845-1945 "Eagle" Brand Chemicals PHOTOGRAPHIC CHEMICALS HYPOSULPHITE SODA SULPHITE SODA (Crystals and Anhydrous) EPSOM SALTS B.P. GLAUBER SALTS B.P. PRECIPITATED SULPHUR B.P. ACCUMULATOR ACID Enquiries Invited JOHN RILEY & SONS, LTD HAPTON, NR BURNLEY Grams: "Rileys" Hapton Phone: Padiham 290/1



Fine Chemicals & Drugs

ADRENALINE

AMINOPHYLLINE

BENZOCAINE

CAFFEINE

DIASTASE

EPHEDRINE

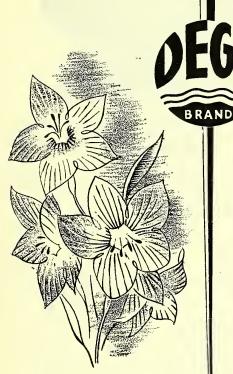
PANCREATIN

PAPAIN

PEPSIN

PHENAZONE

etc.



Essential Oils

Aniseed, Bay, Cajuput, Juniper, Peppermint, etc.

"DEGA" BRAND SPECIALITIES

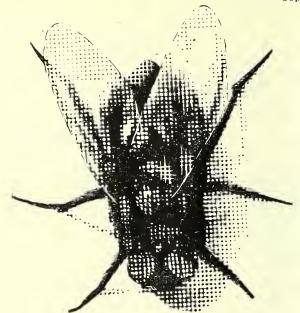
Terpeneless Oils and Isolates Perfume Concentrates

(We manufacture a wide range of Floral and Speciality type bouquets for all classes of trade).

CHAS. ZIMMERMANN & CO. LTD. DEGA WORKS, WALMGATE ROAD, PERIVALE, GREENFORD, MIDDX.

TELEPHONE: PERIVALE 9121 (4 lines)

TELEGRAMS : ACIDOLAN, GREENFORD, MIDDX.



national advertising will pre-sell

this little product to thousands!





The little product with the BIG PROFIT MARGIN is being widely, boldly, simply advertised in National newspapers and magazines. It's just what the housewife needs ... neat,

to flies and moths. Smart display outer carries 3 dozen! Retails at 6d.



Write for Terms to the Sole Distributors DALMAS LTD., JUNIOR STREET, LEICESTER. NEW CREAM-TO-LIQUID

DRESSING FOR LADIES' HAIR



a new line for your counter which women have already taken to their hearts . . . and heads!

More and more women are brushing new brilliance into their hair with Sheen, the new cream-to-liquid hair dressing which also vitalizes the hair and makes it easy to set. They're learning about this exciting new product from professional hairdressers, from their friends, from advertising . . . and already they're asking for it at chemists' counters. Don't miss the sales which Sheen can bring you: stock up with Sheen today and display it. Advertising in leading women's magazines and Editorials will assist your sales!

Sheen

is widely used by professional hair-dressers . . . women trust — and buy—a preparation recommended by the expert!

Sheen

dresses the hair, vitalizes it and makes it easier to set—without leaving it greasy.

Sheen tubes are packed in an attractive display outer and each carton contains six tubes. Cost to you 14/- per doz. plus 100% tax. Tubes retail at 2/11 each.

Order from your usual wholesaler

Sheen

made by the makers of famous ESTOLAN

Osborne, Garrett & Co. Ltd., 51/54 Frith St., London, W.1

ANNOUNCING the NEW

Softex Roll—treated with

Chlorophyll!



RETAIL PRICE ONLY 1/-

(as from May Ist)



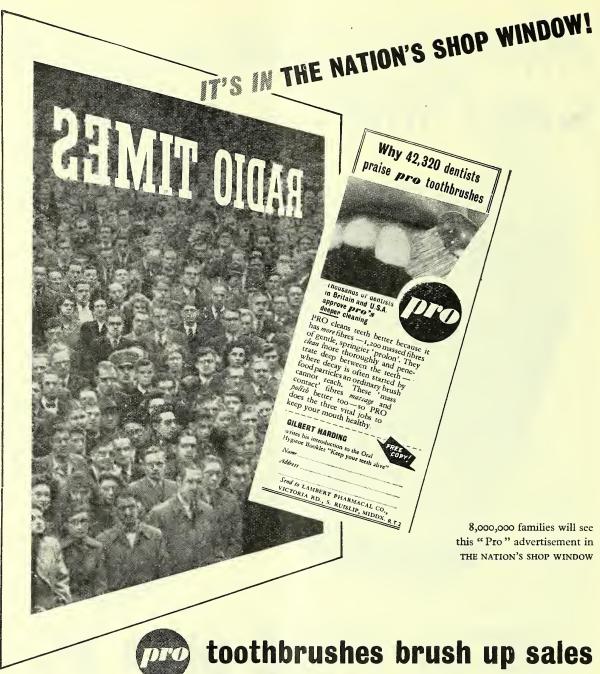
Product of

SWAN MILL PAPER CO. LTD., SWANLEY, KENT

Telephone: Swanley Junction 2386/2388

Showrooms: 92 REGENT STREET, LONDON, W.I

Telephone: REGent 0422



through the RADIO TIMES

By going in the Radio Times, Pro toothbrushes ensure an audience of more than 8,000,000 for this advertisement. It will be seen not just once, but again and again for nine whole days!

With such continuous plugging to so many millions, a very heavy demand is certain. It's only wise, therefore, to give Pro toothbrushes the best possible display to attract this extra trade into your shop.

Stock and display goods advertised in the RADIO TIMES

All Enquiries to: Head of the Advertisement Department, B.B.C. Publications, Broadcasting House, Portland Place, London, W.1

Introducing

the 'AGLA' POCKET ATOMISER



Unique in design, the 'Agla' Pocket Atomiser meets a long-felt need. It can be carried as a constant companion in the patient's handbag or pocket, ready for immediate use at any time. There are no loose parts to "fit together." The all-glass solution-container is cushioned with thick rubber, so no protective case is required.

The Atomiser is efficient, easy to use and to clean. It is suitable for aqueous or oily solutions, distributing the liquid as a fine even spray. Fuller particulars of the 'Agla' Pocket Atomiser which costs 10/6 tax free (subject to usual discount) will gladly be supplied on request.





We are actual makers PACKED OR IN BULK BEST PRICES FINEST QUALITY PROMPT DELIVERY

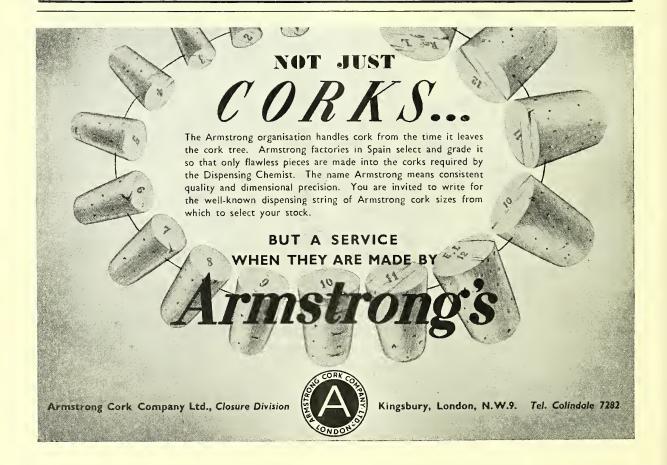
also SACCHARIN TABLETS—still the lowest price for large or small quantities

The

WALLIS LABORATORY LIMITED

58 KING GEORGE'S AVENUE, WATFORD, HERTS.

Telephone: WATFORD 2812



"F99"

Capsules

Liquid

Ointment

New & Improved Trade Terms

"F99", a concentrate of the active isomers of Linoleic and Linolenic acids, of the highest achievable purity and standardized biological activity is indicated in skin disorders due to essential fatty acid deficiency of dietetic or "absorption" origin, i.e., chronic furunculosis, eczemas of various types including infantile eczema and in some cases of acne.

Please note new and improved terms. Until further notice, and only on orders placed direct, the following additional discounts will be allowed: On £3 order, 5%; £6 order, 6%; £7 order, 7%; £8 order, 8%; £9 order, 9%; £10 and over 10%.

"F99" has no N.F. equivalent, is not advertised to the public and may be prescribed on EC10. The average weekly cost to the chemist, with full dosage, can be as little as 3/6.

"F99" literature on request

The Relief of ASTHMATIC COUGHS

Consistent advertising in the Press, in the Cinemas and on the air from Radio Luxembourg has substantially increased the demand for



International Laboratories Ltd

Dept. PA 29, 18 Old Town, London, S.W.4

MACaulay 3481



THE CHEMIST AND DRUGGIST

ESTABLISHED 1859

The weekly newspaper for pharmacy and all sections of the drug, pharmaceutical and fine chemical, cosmetic, and allied industries.

Official organ of the Pharmaceutical Society of Ireland and the Pharmaceutical Society of Northern Ireland

Volume 159

April 11, 1953

No. 3816

CONTENTS

Aureomycin in Herpes Zoster	383
Central N.H.S. Committee	364
Chemical Dangers to Health	359
Drug Trade Expansion	379
Effluent Disposal	366
Leading Articles:—	
Second Thoughts on the Code	369
Making the Most of Machines	369
Exports to Turkey	370
Northern Ireland Health Board	359
Onward from Galen	370
Opposition to Registration	359
Pharmaceutical Society of Great	
Britain: Council Meeting	364
	365
Problems in Plastic Surgery	383
	357
TABLET MACHINERY	
Compressing Machines	371
Coating Pans	375
Ancillary Equipment	376
Branch Meetings 356, 358 Price Changes Sup	plement
Business Changes 360 Print and Publicity	
Coming Events 382 Recent Research	
Deaths 361 Topical Reflections Legal Reports 361 Trade Marks	
Legal Reports 361 Trade Marks New Books 384 Trade Notes	
New Companies 360 Trade Report	381
Personalities 361 Week in Parliamen	
INDEX TO ADVERTISERS, Pp. 5 &	6.

EDITORIAL AND PUBLISHING OFFICES

28 ESSEX STREET, STRAND, LONDON, W.C.2

Telephone: Central 6565

Telegrams: Chemicus, Estrand, London

Branch Offices:

BIRMINGHAM, 2: 111 New Street.

Phone: Midland 2921
GLASGOW: 19 Waterloo Street.

Phone: Central 3239

MANCHESTER: 344 Washway Road, SALE. Phone: Sale 4595 LEEDS, 6: 32 Wynford Rise, West Park. Phone: Leeds 78438

ANNUAL SUBSCRIPTION, which includes The Chemist and Druggist Diary and Year Book, £2. Single copies one shilling each.

THE LEADERS IN THEIR FIELDS

MEGGESON PHARMACEUTICAL PRODUCTS



Behind every Meggeson product there is a reputation for service to the pharmacist and the public which goes back more than 156 years. To-day, the name MEGGESON is the first that comes into the minds of millions of people whenever a medicated pastille or lozenge is required; and the importance of this brand name to pharmacists is still increasing as a result of continuous national advertising.



Volume 159

APRIL 11, 1953

No. 3816

Cost of the Health Service

MINISTER SETS UP COMMITTEE

THE Minister of Health (Mr. Iain Macleod) announced in the House of Commons on April 1 that he and the Secretary of State for Scotland had decided to appoint a Committee to review the cost of the National Health Service.

The terms of reference of the Committee are: "To review the present and prospective cost of the National Health Service; to suggest means, whether by modifications in organisation or otherwise, of ensuring the most effective control and efficient use of such Exchequer funds as may be made available; to advise how, in view of the burdens on the Exchequer, a rising charge upon it can be avoided, while providing for the maintenance of an adequate Service; and to make recommendations."

The Minister said that other measures initiated by the Government to reduce the cost of the service without impairing its quality had been "measures of detail," and the general long-term problem remained essentially unsolved.

Chairman of the Committee is an economist: Mr. C. W. Guillebaud; names of the other members are being announced as soon as possible.

The Minister's announcement brought a quick protest from Mr. Aneurin Bevan, who asked whether the National Health Service was not primarily a matter for political decision in the House of Commons. He argued that the words "or otherwise" in the terms of reference meant that the whole question whether there should be any longer a free health service had been remitted to the Committee. The Minister should have sought the views of the Central Health Services Council.

The Minister replied that the costs had been considered essentially a Departmental matter, and therefore the announcement was appropriate to himself and not to the Chancellor of the Exchequer as part of the forthcoming Budget speech. The matter should not be referred to the Central Health Services Council, as that was representative of wide interests within the Health Service. An entirely independent inquiry was needed—not a political one, nor one linked in any way to any of the professions concerned in the Service. The inquiry was a general one into the function, structure and policy of the Service and was not an "economy cuts committee."

PURCHASE TAX Committee's Report Under Fire

THE National Chamber of Trade in a statement sent to the Chancellor of the Exchequer and to members of Parliament is strongly critical of the Hutton Committee's report on purchase tax (C. & D., March 21, p. 281), and of the Government for so promptly accepting those findings connected with rebate claims. It seeks support of members for a motion that has already been tabled which urges the Government to reconsider the "whole matter." The statement concludes: "If the Government accepts the Hutton Committee's arguments against a retailers' rebate scheme, it is under obligation to devise some other effective solution to the problem."

DUTY-FREE MACHINERY Evidence Wanted by Committee

THE Board of Trade announces that the Committee on the duty-free entry of machinery into the United Kingdom (C. & D., March 28, p. 306) will welcome evidence in writing from interested persons or organisations, Letters or memoranda should be sent to the Joint Secretaries, Board of Trade, Room 3135, Horse Guards Avenue, London, S.W.1, before May 15. Individuals or organisations intending to submit such evidence are asked by the Board of Trade to inform the Joint Secretaries of that intention at once

CAMERAS EXPORTED Consignment to U.S.A.

100.000 CAMERAS, designed and made in England by Kodak, Ltd., are to be exported to the U.S.A. in 1953. They will earn nearly \$250,000 and may lead to increasing photographic trade with America. The first consignment of 6,000 left on March 14. The consignment was inspected just prior to shipment at the Kodak factory at Wealdstone by Ministry of Supply officials. They also saw production processes

FRANCO-BRITISH TOURS Simultaneous Programme

THE Franco-British Pharmaceutical Commission are holding lecture tours in Britain and in France simultaneously, April 20-May 1. The lectures being given in France are by Mr. F. C. Wilson (a member of the Council of the Pharmaceutical Society) on "Pharmaceutical Organisations in Great Britain," and Dr. J. M. Rowson (curator of the Society's Museum) on "Studies in the Genus Digitalis — Chemical and Biological Estimations." The lectures are being given at the Universities of Lyons, Aix-Marseilles and Toulouse. The lecturers for Britain are Professor G. Valette (professor of pharmacology, Faculté de Pharmacie, Paris) (on "Pharmaceutical Education in France" and "Cutaneous Absorption of Medicaments"), and Mr. Jean Lesur (president, Syndicat des Pharmaciens du Nord) on "Methods of Payment for Pharmaceutical Supplies in the French Health Service").

BRANCH RESOLUTIONS Amendments Accepted

THE following amendment to resolutions tabled for discussion at the Branch Representatives' meeting on May 14 (sec C. & D., March 7, p. 241) has been added to the agenda for the meeting:—

meeting:—
Aberdeen and North-eastern Scottish resolution
[on representatives' travelling expenses]

[on representatives' travelling expenses].

Add "and locum expenses when incurred."
(Rochdale Branch).

King's Lynn resolution [on recognition of assistants].

In view of the possibility of standards for assistants in pharmacy becoming recognised by an outside authority it is considered essential that all Branches should give their full support to the official policy. (Rochdale Branch).

to the official policy, (Rochdale Branch).
Delete the second sentence, i.e., from the words "If such recognition is desired." (East Metropolitan Branch).

North Staffordshire resolution (3) [on implementation of passed resolutions]

tion of passed resolutions].

Add "or alternatively that the Council should publish in the *Pharmaceutical Journal* as soon as possible the reasons for the non-implementation of the resolution." (Slough Branch).

Reading Branch resolution (on election of representatives).

Delete the words "and instructed." (East Metropolitan Branch).

HOSPITAL PAY CLAIM Part-time Staff Proposals

AT a meeting of committee C of the Pharmaceutical Whitley Council held in London recently the staff side put forward a claim for an increase of 2s. to apply to the sessional (four hours) rates for part-time hospital pharmaceutical pharmaceutical

macists. The management side are replying in writing "in the near future."
The staff side suggested that students should have conditions of service broadly similar to those of pharmaservice cists but with the following annual leave allowance:—(a) Pre-graduate students: up to twenty-one years of age, twelve working days; over twentyone years of age, eighteen working days; (b) post-graduate students, eighteen working days. The management side accepted the proposals. The staff side urged that the agreement should be modified to improve the immediate increase in salary payable to those pharmacists in mental hospitals re-cently regraded from category II to category III. After discussion it was agreed that the staff side should submit details of actual cases to the management side. A claim for an increased annual leave allowance was submitted on behalf of senior, deputy chief and chief pharmacists in categories I and II. The management side said they considered the existing leave entitlement adequate and comparable to that generally applicable to hospital staffs.

APPROVED NAMES Further List

THE British Pharmacopæia Commission has issued a further supplementary list of approved names for drugs (see also *C. & D.*, 1952. II. 715). The new names are as follows:—

APPROVED NAME OTHER NAMES N-Benzyl-2-phenylethylamine Benethamine penicillin salt of benzylpenicillin Bismuth Bismuthyl N-glycollylarsaniglycollylarsanilate late; Milibis Cetrimonium Hexadecyltrimethyl ammonchloride ium chloride Hexachlorophane Di - (3:5:6 - trichloro - 2 hydroxyphenyl) methane; Hexachlorophene Hyaluronidase Enzymes which depolymerisc hyaluronic acid 4 - Hydroxy - 5 - iodo - 2 -Iodothiouracil mercaptopyrimidine; Itrumil is the sodium derivative

| Iopanoic acid | 2 - (3 - Amino - 2:4:6 - tri - iodobenzyl) butanoic acid; | Telepaque | Methylpentynoi | 3-Methylpent-1-vn-3-ol: Ob-

Methylpentynol 3-Methylpent-1-yn-3-ol; Oblivon; Somnesin Nitrofurazone 5 - Nitrofuran - 2 - aldehyde

tetranitrate
Phenylephrine

semicarbazone; Furacin
Pentaerythritol 2:2 - Bishydroxymethyl - 1:3 -

propanediol tetranitrate; Pentaerithrityl tetranitrate (-) - 1 - m - Hydroxyphenyl

2 - methylaminoethanol; Neophryn or Neosynephrinc are the hydrochloride

Procainamide 4-Amino-2-(diethylaminocthyl) benzamide
Procyclidine 1-Cyclohexyl - 1-phenyl

1 - Cyclohexyl - 1 - phenyl 3 - pyrrolidinopropan -1 - ol; Kemadrin is the hydrochloride

Sulphasomidine 6 - p - Aminobenzenesul phonamido - 2:4 - di methylpyrimidine; sulfisomidine; Elkosin

DOCTORS' PAY

Recommendations Made Effective

RECOMMENDATIONS by a working party set up as part of the process of settling the doctors' pay claim which resulted in the Danckwerts' award (see C. & D., 1952.I.414 and 811) were given effect from April 1 by the National

Health Service (General Medical and Pharmaceutical Services) Amendment (No. 2) Regulations, 1953 (S.I., 1953, No. 505) published on March 28 by H.M. Stationery Office, Kingsway, London, W.C.2, price 9d. Under the new system the present upper limits of 4,000 patients for a single-handed practitioner. 5,000 for a member of a partnership (if the average per partner is not above 4,000), and 2,400 for a permanent assistant, are reduced to 3,500, 4,500 and 2,000 respectively; and the basic capitation fee of 17s. per patient will be "loaded" by an additional payment of 10s. for every patient on the list between the 501st and the 1,500th. To encourage practitioners to set up in under-doctored areas, initial allowances are to be introduced on the following scale: £600 in the first year, up to £400 in the second, and up to £200 in the third, subject to certain conditions. The present system of fixed annual payments will end.

SCOTTISH NEWS

Doctors to Continue Dispensing

TWO doctors serving the district of Houston, Johnstone, Renfrews, who were to have stopped dispensing medicines after March 31 (see C. & D., February 28, p. 202) are to be allowed to continue by a decision of Renfrewshire Executive Council on March 19. The Council will discuss the question again at their next monthly meeting. The Council had before them a letter from the Department of Health for Scotland on representations made to them by the Scottish Branch of the British Medical Association, who contended that patients who had their medicine dispensed by their doctor would suffer hardship. Mr. Thomas Hunter, Paisley (chairman of the Council), said that the number of patients for whom the doctors dispensed medicine was 816. During the past eight months the doctors had dispensed 227 prescriptions.

Thefts in Glasgow

PREMISES occupied by CAPPELL, LTD., chemists, at 120 Sauchiehall Street, Glasgow, were broken into on March 19 and expensive fountain pens and cameras were stolen. — For the

second time within a week the pharmacy of MR. WILLIAM BLAICKIE, M.P.S., 322 Dumbarton Road, Glasgow, was burgled on March 17. Quantities of selected cosmetics were stolen.

Staff Dance

THE staff dance of the New Apothecaries Co., Ltd., held in Glasgow on March 20, was attended by Messrs. W. L. Greig and R. Lindsay (directors), to the wives of whom the staff presented bouquets.

IRISH NEWS

Benevolent Fund Whist Drive

ABOUT £18 was raised for the Northern Ireland Chemists' Benevolent Fund by a whist drive organised by the Ulster Chemists' Association in Belfast on March 25. The president of the U.C.A. (Mr. C. L. Gordon-Rattie) welcomed the guests, who included Mr. F. Hughan, (vice-chairman of the Scottish Department of the Pharmaceutical Society of Great Britain). Mrs. Gordon-Rattie presented the prizes, which had been donated by a number of wholesalers, to Mrs. T. A. Gibson (first ladies), Mrs. M. Ledlie (second), Mrs. F. Bolton (consolation), Messrs. T. Bain (first men's), H. J. M. Hemphill (second) and Horan (consolation). The arrangements were made by Miss C. E. Culbert, Miss L. M. Forrest, and Messrs. W. H. Boyd, J. Caldwell, W. J. Moffett, T. A. Gibson and H. H. Cowzer.

Students' Debate

THE Literary and Scientific Debating Society of the College of Pharmacy of the Pharmaceutical Society of Ireland held a debate in Dublin recently. The motion was "Our present system of Education is unsuited to our Agricultural and Industrial Development and, therefore, encourages Emigration" and Mr. Sean MacBride, S.C., T.D., presided. The pharmacy student speakers for the motion (which was carried) included Messrs. T. Farmer (president of the Students' Association), M. J. Cahill, M. Tobin, M. O'Callaghan and N. Crosson. The opposers were members of the public speaking group of the High School of Commerce, Rathmines.



ST. JOSEPH'S YOUNG PRIESTS' SOCIETY: The platform group photographed at the annual meeting of the pharmacy branch of the St. Joseph's Young Priests' Society (see C. & D., March 28, p. 366). The group includes: Messrs. M. D. Walsh (president of the branch) (scated, centre), J. P. Kissane (president, Pharmaceutical Society of Ireland) (third from left, standing), C. J. Cremen (a member of the Council of the Pharmaceutical Society of Ireland) (fourth) and M. Costello (vice-president of the Pharmaceutical Society of Ireland) (fifth).

April 11, 1953

Export Control Exemptions

THE Irish Minister for Industry and Commerce has made an Order removing from export control many commodities including chemicals, drugs, dyes, and colours, disinfectants, hair lotions, weed killers, sheep dips, rat poisons, fungicides, insecticides, detergents, crude glycerine, menthol, medicines and medicinal preparations, spectacles and parts thereof, and methylated spirits.

Photographic Competition

THE Irish branch of the Photographic Dealcrs' Association in conjunction with the *Standard* weekly newspaper are running, for three weeks, a Tostal (Ireland at Home) festival photographic competition. Prizes are being awarded each week. The art editor of the *Standard* and Mr. Lyall Smith, M.P.S.I., are the judges.

NEWS IN BRIEF

D.D.A. Authority Withdrawn.—The authority to possess and supply Dangerous Drugs has been withdrawn by the Home Secretary from Conrad Hunter-Smith, M.B., Ch.B., whose registered address is Villa Nova, Elham, Canterbury.

Travellers' Schools. — Contributions and offers to act as stewards for the 1953 Royal Commercial Travellers' Schools Maintenance Appeal are invited by the Schools and should be sent to the secretary, Mr. A. H. Carpenter, Kings Court, 48 Broadway, London, S.W.1.

Retail Sales in January.—Recently issued Board of Trade figures show that sales of chemists' goods by large retailers were 46 per cent. lower in January than in December 1952 and 12 per cent. higher than in January 1952. Comparative figures for independent retailers were 23 per cent. lower and 6 per cent. higher, respectively.

Food Labelling. — Under an Order (S.I., 1953, No. 536) made by the Minister of Food and in force since April 5, preparations included in the 1948 British Pharmacopæia or in the 1949 British Pharmaceutical Codex are exempt from December 1, 1953, from the requirement of the Labelling of Food Order, 1950, that ingredients must be disclosed on the label.

Resolution on Patent Medicines.—A Co-operative Party resolution at a meeting held in Southsca on April 6 called for a Royal Commission to examine the curative value and price of all medicaments with a view to price control of those with proved curative value and the prevention of manufacture and sale of those found to be spurious.

Purchase Tax Coupon Scheme.—Notice No. 77F (The Purchase Tax Coupon Scheme for Overseas Visitors), issued by the Commissioners of Customs and Excise, has been reprinted. The notice supersedes that issued in June 1951 and incorporates changes notified during the interval. Attention is drawn to the modified wording of the certificate to be signed by the visitors using the scheme.

TOPICAL REFLECTIONS

By Xrayser

N.H.S. Prescribers in Scotland

In spite of a time-lag in the analysis by Drs. Dunlop, Inch and Paul of 13,340 prescriptions written in October 1951 (p. 339), results obtained and comments made by these doctors are worth careful reading. With some surprise I have read that proprietaries were more extensively prescribed there than in England (30 per cent. of these preparations compared with 21 per cent. in the corresponding English survey). What may be called simple expectorant mixtures were, in 1951, less in favour than mixtures combining sedatives and expectorants. Prescriptions for cough mixtures were notably higher in Aberdeen city (12:4 per cent.) than in the surrounding area (7:7 per cent.). Presumably the Aberdonians insisted on value for their subscriptions. "It was probable," the authors write, "that only a small proportion of the vitamin prescriptions served any useful purpose in view of the supplies made at welfare centres." Once more, 3,000 prescriptions a month for folic acid "would seem to be excessive."

Two Historical Publications

Just before Easter I received two pamphlets from the American Institute of the History of Pharmacy. The shorter one is a reprint of an article by Alex Berman on C. S. Rafinesque (1783-1840). The longer one is an account of "The Oregon Trail of Pharmacy," by George B. Grifferbagen and William C. Felton. According to Whitaker's Almanack, Oregon is a thinly populated State occupying an area larger than that of Great Britain. The first drug store was opened in Oregon City in 1847. The first journal for Oregon pharmacy, The Pacific Drug Review, was founded in 1884. Chain stores made their appearance about the same time. The Oregon State Pharmaceutical Association was founded in 1890. An Act to Regulate the Practice of Pharmacy and the Sale of Poisons was passed in 1891; and University graduates in pharmacy were first admitted in 1889. Enough has been written here to show that Oregon pharmacists are alert.

Points in Students' Conference

Lectures and addresses delivered at the recent conference of the British Pharmaceutical Students' Association (pp. 338-39) were of high quality. The dictum of Mr. Scott Cairns, Q.C., that not more than one in 500 pharmacists was the subject of a complaint, is noteworthy. In a book by the daughter of Dr. R. Campbell Thompson, a West End consultant, he is quoted as saying that every profession includes about 5 per cent. of "rotters." That is a much larger proportion than the one claimed for pharmacy. Another useful observation was made by Mr. C. G. Dufour, who spoke on the importance of handling personnel and getting the maximum without bullying. This was impressed on me about twenty years ago by the chief chemist of one of our leading houses.

Early Uses of "Arsenic"

Research by Dr. Thompson (see previous paragraph) showed that in Assyria, in the seventh century B.C., two salts of arsenic identical with or corresponding to the trisulphide (orpiment) and the disulphide (realgar) were used medicinally and in making glass and glaze. These sulphides were known to Hippocrates, who practised about 200 years later. In Greek, orpiment was arsenikon, and realgar sandarache. The former word has been referred to the Persian az-zernikh, based on zerni, from zar (gold). Dioscorides, writing in the first century of the present era, mentioned both substances, and stated that arsenikon was prescribed as a depilatory and as a caustic. Both the sulphides have been noticed by Aristotle and Theophrastus. It is thought that Olympiodorus, who lived in the fifth century, was the first person to prepare arsenic trioxide. In the seventh century Paulus Ægineta (whose works were translated into English by Francis Adams just over a century ago) gave a formula for a caustic containing arsenic and more than forty other ingredients. It bore the curious name trochisk pantolmius.

BRANCH AND ASSOCIATION MEETINGS

DUNDEE

Donation to Benevolent Fund

THE Dundee and Eastern Scottish Branch of the Pharmaceutical Society held a basket whist drive in Dundee recently, which raised £13 for the Society's Benevolent Fund.

HENDON AND EDGWARE

Advances in Sex Hormones

RECENT advances in the knowledge of sex hormones were discussed by Mr. G. A. Stephens (British Drug Houses. Ltd.) in an address to the Hendon and Edgware Branch of the Pharmaceutical Society at Edgware recently. Mr. STEPHENS, who illustrated his talk with lantern slides, mentioned that the use of male hormones in certain female disorders was increasing. He doubted whether the recently synthesised triencestrol would find a wide application, but thought hormone creams might be of value in certain skin diseases, particularly those of puberty and the menopause. Their use should be controlled medically.

WEST MIDDLESEX

Recent Advances in Therapeutics

"Some Recent Advances in Therapeutics" were outlined by Mr. L. Priest recently in an address to the West Middlesex Chemists' Association—of which he is a member. Pharmacists, he said, were increasingly being regarded as advisers on drugs and therapy, and should keep abreast of developments. Advances in therapeutics fell mainly into four groups: New methods of maragement of diseases (diets, etc.); new drugs with new uses; new applications for discontinued drugs; and new applications for current drugs. The meeting passed a resolution to hold a refresher course again locally in the 1953-54 session.

WEST LONDON

Make-up Demonstration

AT a recent meeting of the Western [London] Pharmacists' Association held in London, representatives of Max Factor Hollywood & London (Sales), Ltd., demonstrated on two members the correct use of make-up for photographic purposes. It was explained that to produce a good picture the red in a child's fresh complexion had to be toned down. A representative of the Photographic Dealers' Association gave a summary of the work of his organisation and said that attempts were being made to remedy the anomaly that photographic equipment was taxed at twice the rate of "frivolous articles."

MANCHESTER

Pharmacist and the Law

AT a meeting of the Manchester branch of the Guild of Public Pharmacists held in Manchester on March 6, Mr. L. Haselgrove in the chair, Mr. C. C. STEVENS, LL.B., M.P.S., gave an address on "The Pharmacist and the Common Law." The speaker outlined the conditions necessary to the forming of a contract which involves an

offer and an acceptance between two parties. Each party must get something—even a nominal sum—out of the contract. Certain factors, he said, render a person incapable of entering into a contract. Lunatics, felons and those under twenty-one years of age cannot contract. The lecturer also indicated remedies which may be applied in cases of breach of contract. He defined a tort as unintentional negligence leading to damage to the plaintiff. The lecture throughout was illustrated by examples.

DARTFORD

Insulin Symposium

A JOINT meeting of the Dartford Branch of the Pharmaceutical Society and London section of the Royal Institute of Chemistry held in Dartford on March 23 took the form of a symposium on insulin. A film showing the history of diabetes and how insulin is manufactured was shown by courtesy of Burroughs Wellcome & Co. Mr. R. N. Fox then gave an account of thirty years' British experience of insulin extraction and purification. Improvements in technique were reflected in the fact that although the price of pancreas had risen tenfold since 1939 that of insulin injections had increased only slightly. Mr. F. M. SIMONS outlined methods of preparation of packed solutions of insulin, for injection, and the requirements of the Therapeutic Substances Act. The insulin labelling colour code agreed by the Association of British Insulin Manufacturers was an example of commercial co-operation of use to industry and to the diabetic. DR. G. E. FOSTER outlined physical and chemical tests used in the control of insulin and insulin solutions.

PORTSMOUTH

Beauty Care Demonstration

THE March meeting of the Portsmouth Branch of the Pharmaceutical Society under the chairmanship of Mr. A. W. Dempsey took the form of a lecture and demonstration by MISS R. SMITH (of Yardley & Co., Ltd.). A special invitation was extended to members' wives, friends and members of their staffs, and approximately 200 attended. The lecturer outlined the fundamental principles of beauty care, and the proper method and application of correct make-up. Following the lecture, Miss D. M. V. Hoit acted as model and a demonstration was given by Smith. At the meeting the Branch decided unanimously to support the local candidate, Mr. J. C. Bloomfield in the forthcoming election to the Council of the Pharmaceutical Society.

PRESTON

Council's Proposals Opposed

A MEETING of Preston Pharmacists' Association on March 10 considered the Pharmaceutical Society's proposed code of ethics and the report of the Society's Council on assistants in pharmacy. Discussion on the first subject was hampered by the knowledge that the Society was proposing to issue a further revision of the draft, but it was

felt that in the present draft the Society was concerning itself with matters of a commercial nature instead of limiting itself to purely professional matters, and was seeking to set up a series of regulations which would supersede the law of the land. The meeting was strongly opposed to re-gistration of unqualified assistants, as it might threaten the status of the pre-sent members of the Society. There was no guarantee against the Ministry of Health using the assistants to dilute the ranks of pharmacists, especially in the health centres of the future. The opinion was expressed that the acknowledgment of a lower standard might seriously hinder the efforts of the Society to obtain commissioned rank for pharmacists in H.M. Forces. It was resolved that the code of ethics should deal with the professional side of phar-macy only, and should be specific about what constitutes an offence; and that the meeting was opposed to any recognition of unqualified assistants.

EXETER

Brains Trust Answers Questions

A BRAINS trust was held at a meeting of the Exeter Branch of the Pharmaceutical Society at Barnstaple, on March 18. The team was asked: "In view of the urge to enhance our professional status, and bearing in mind that the Queen is Patron of the Society, does the team think that members should decorate their premises for the coronation, and if so, what is the most appropriate form for these decorations to take "? It was unanimous in suggesting that members should co-operate with the local authority's scheme for the area, but should avoid stereotyped window displays. Portraits of the Queen and the Duke of Edinburgh might be included, but advantage might be taken of the opportunity to draw attention to the progress in pharmaceu-tical technique during the century since the granting of the Royal Charter.

Metric System

In reply to a question about the team's reaction to supplying drugs by metric measure, and liquid drugs by volume the team expressed the opinion that the change would be of advantage to wholesalers and eventually to pharmacists, but until the whole of commerce was conducted on the metric system, there must be some confusion. Asked if it agreed that the abandon-ment of Latinised titles in the new edition of the British Pharmacopæia was a retrograde step, the team was at first divided in its opinions and some were glad to think that future generations of students would be spared the miscry of learning Latin. However, second thoughts revealed a nostalgia for the "tidy" Latinised titles that had been the familiar decorations of specie jar, shop round and drawer. Dispensing would be slowed while the pharmacist verified that an item on a pre-scription, described by the old Latinised titles, conformed with the galenical supplied by the manufacturer under the new title.

STUDENTS' CONFERENCE AT SUNDERLAND

(Concluded from THE CHEMIST AND DRUGGIST, April 4, p. 339).

Brains Trust

THE final session of the conference, held on March 27, took the form of a brains trust with Mr. A. M. Barrett, London, in the chair. The team comprised Miss J. R. Houston and Messrs. F. C. Wilson, J. C. Penman, and A. McGuckin. Questions and answers are summarised below:

In Europe the registration of a pharmaceutical preparation or drug confers a monopoly. Would that system help

British pharmacy?

MR. McGuckin: Yes. Pharmacists have to stock many different brands of the same drug (e.g. vitamin B₁₂).

MISS HOUSTON: Yes. Prescribing

and prescription reading would be sim-

Mr. WILSON: It would be fairer on the workers responsible for new developments.

What is the opinion of the brains trust on the 1953 British Pharmacopæia?

MISS HOUSTON: It is an improvement, making studies less complicated.

MR. McGuckin: It is a mixed blessing. The arrangement of monographs on preparations following those on the parent substances is an advantage. On the other hand manufacturers will have to consider whether or not to follow suit in their price lists. Except for those newly qualified, doctors will continue to use "dog Latin."

MR. WILSON: I am in favour of English titles. There is a danger of confusion with Latin ones. For example, "collutorium," "collunarium" and "collutorium," "collunarium" and
"collyrium" could all be abbreviated

as "coll."

MR. PENMAN: I agree. There is no need today for "mumbo-jumbo" to prevent a patient knowing of what his medicine consists. Many patients tell their doctors what to prescribe. But for a book of standards the old arrangement is better.
What does "ethical," as applied to

pharmacy, mean?

MR. WILSON: Ethics distinguish a professional man from a workman. In commerce and industry a customer is competent to judge the material value of the commodity he receives: not so where a profession is concerned. Every profession has some method of excluding those members who fall down on their responsibilities.

MR. McGuckin: An "ethical" preparation is one that is not advertised to the public but only to the medical and

pharmaceutical professions.

What is the opinion of the brains trust on the adoption of the metric system—with special reference to the possibility of misinterpretation where very small quantities are involved?

MR. McGuckin: The change is not to extend to doctors. There is no advantage whatever to be gained.

MISS HOUSTON: I find posology easier in the Imperial system.

MR. WILSON: There is no evidence that misinterpretations occur more frequently in those countries that use the metric system. There is a danger of confusion when two systems are run-

ning as in Britain.

MR. PENMAN: The symbol "G" should be used for gramme in prescriptions. There is danger of confusion between gramme, centigramme and milligramme.

MR. WILSON: Resale could be made in the Imperial system without difficulty just as chemists now sell fluids by volume when they have bought

them by weight.

Business Sessions

At a meeting held on March 24 the reports of the officers of the association were presented and accepted unani-mously. In the absence of the other officers Mr. Box (treasurer) read them all. The report of the membership secretary (Mr. J. M. Blau) stated that the membership included fifty-eight lifemembers.

The treasurer's report showed that, for the year ending July 31, the anticipated total receipts would amount to £234 (actual at time of report, £207), the total anticipated expenditure to

£227 (£140).

The liaison secretary with the International Pharmaceutical Students' Federation (Mr. K. Palmer, Nottingham) reported that twenty-six members of the association had expressed a wish to attend an I.P.S.F. summer camp to be

At an "open forum" held on March 25 and 26 the following resolutions

were passed:

That the whole question of practical training (apprenticeship) be thoroughly reviewed with regard to degree and Ph.C. students [so that students referred in a degree final examination could commence their apprenticeship without waiting to produced. graduatel.

That graduates who have passed an examination in forensic pharmacy in a university should be registered with the Society without being required to pass the Society's examination in forensic phar-

The B.P.S.A. is perturbed by the proposal to create a register of unqualified

The B.P.S.A. should press for measures to be taken by the Pharmaceutical Society to enable students to obtain more easily post-graduate apprenticeship and vaca-

tional work.
That the B.P.S.A. request that they may be allowed to send a representative to meetings of the Council and committees of the Pharmaceutical Society when matters directly affecting students are under discussion.

This conference resolves that the use of semimicroanalysis be allowed in the practical sessions of the Qualifying examination of the Pharmaceutical Society.

That this conference views with con-

cern the lack of choice and variable quality of apparatus and lack of certain essential reagents at the examination centres of the Pharmaceutical Society,

The following officers for 1953-54 were elected:—President, Mr. S. K. Agrawal, Nottingham; General Secretary, Mr. A. M. Barrett, London; Treasurer, Mr. N. Brudney, London; Membership Sccretary, Mr. J. M. Blau; I.P.S.F. Liaison Secretary, Mr. W. M.

Darling. Mr. Agrawal and Miss Pamela Godden, both of London, were elected B.P.S.A. representatives to the I.P.S.F. 1953 camp. Miss J. R. Houston took the chair on March 26.

The social activities of the conference comprised an informal social held on March 24 (at which there were dancing, games, and songs sung by Mr. Oliver), a visit to a Newcastle theatre (the party travelled in a special motorcoach) on March 25, and a formal dinner on March 27.

The dinner was held at Scaburn and about forty people attended. After the loyal toast proposed by Mr. J. C. Pen-Man (toastmaster) "The Sunderland Branch of the B.P.S.A." was proposed by Alderman McG. E. English. Mr. M. Baum (chairman of the branch) in his reply said that the branch (a comparatively new one) was proud to act as host for the conference. The branch had grown in size and activity over the past two years. He thanked the delegates for their contributions to the conference. Mr. B. A. WILLS (immediate past-president of the association) proposing "Sunderland Technical College." paid a tribute to the head of the department (Mr. F. H. Oliver) as a teacher and leader of academic staff. MR. D. A. WRANGHAM (principal of the College) replied.

Proposing "The Guests and the Pharmaceutical Society," Mr. J. E. FORSTER (vice-chairman, Sunderland branch, B.P.S.A.) welcomed the guests and specially mentioned Mr. F. C. Wilson (immediate past-president of the Pharmaccutical Society) who, he said, had the welfare of the members of the Society at heart. He hoped that the Council of the Society would carefully weigh up the representations made, on the code of ethics and registration of assistants, by members of the Society throughout Britain. Replying, MR. WILSON referred to the problem of recognition of pharmacists in H.M. Forces. Progress was being made but the Council was impatient to have the matter settled satisfactorily. The Council was giving serious consideration to the representations referred to by Mr. Forster. No other questions, he said, had so aroused the emotions of members as those two. Those who opposed the proposals of the Council often made a "wide and inaccurate" interpretation of what was intended.

MR. OLIVER then proposed "The British Pharmaceutical Students' Asso-The association was, he said, an excellent training-ground for students to learn how to serve the community. He was sure that a good proportion of future members of the Council of the Pharmaceutical Society and even presidents—would be the B.P.S.A. officers of today. In her response, MISS J. R. HOUSTON (president of the association) thanked those who had made the conference a success.

Mr. S. J. Relph, London, proposed the health of Mr. J. A. Box who, he said, had worked so conscientiously for

the association since 1948.

LOCAL DINNERS AND DANCES

HALIFAX

Plea for Training Facilities

HALIFAX Branch of the Pharmaceutical Society held its annual dinner in Halifax recently, Mr. C. Binns presiding. The toast "The Pharmaceutical Society" was proposed by Mr. C. Marshall, and the response was given by Mr. C. W. Macfarlane (a member of the Society's Council) who urged members with private shops to train apprentices, Most apprentices, he said, were being trained by multiple firms and that could have serious repercussions upon their calling. He hoped branches would seriously consider the revised statement on matters- of professional conduct, Mr. D. Bland proposed "Kindred Branches," to which the reply was made by Mr. F. Goodhall, Huddersfield, "The Visitors" was proposed by Mr. K. G. Dixon and replied to by Dr. G. C. F. Roe (medical officer of health for Halifax). There was entertainment by Messrs, H. Greenwood and Mr. K. G. Dixon.

BOURNEMOUTH

Tribute to Former President

At the annual dinner and dance of the Bournemouth Branch of the Pharmaceutical Society held in Bournemouth recently the chairman (Mr. G. E. Titman) proposing "The Pharmaceutical Society" paid a tribute to Mr. F. C. Wilson (innmediate past-president of the Society) who was present. In his reply Mr. Wilson read an extract from a speech made by Jacob Bell in 1841 in which it appeared "that we were not so beset by troubles from without, as by the apathy of the majority of our own members." Was that not still true, he asked? The attendance was about 300 and the guests included Messrs. M. Hill (a director of The British Drug Houses, Ltd.) and S. M. Lennox (home sales manager of the company) and members of the Portsmouth and Southampton Branches of the Society. The menu card was designed as a Coronation memento and

each member or guest was given a dance programme and a tasselled pencil.

ABERDEEN

Many Prominent Guests

THE annual dinner and dance of the Aberdeen Pharmaceutical Association in Aberdeen on March 18 was attended by 158 including a party from Dundee and Arbroath, Angus. The president of the Association (Mr. Walter C. D. Bain) welcomed the guests who included Drs. I. P. J. Mac-Naughtan and H. Fowlie (representing the City of Aberdeen Division of the British Medical Association), Messrs. G. G. C. Bain and G. A. Matthew (chairman and clerk, respectively, of the Executive Council for the City of Aberdeen), and Mr. Kiantia, a native of Mauritius (representing the students of the Aberdeen School of Pharmacy). Also present were three members of the Council of the Pharmaceutical Society—Messrs. W. T. Elder, C. W. Macfarlane and A. A. Meldrum, and three members of the Executive of the Scottish Department, Messrs. M. S. Maconochie, W. A. Park and R. J. Cowie (vice-president of the Association). The toast of "The Aberdeen Pharmaceutical Association" was proposed by Dr. MacNaughtan, with the reply by Mr. W. C. D. Bain, The toast of "Our Guests" was proposed by Mr. Cowie and replied to by Mr. G. G. C. Bain, Arrangements were by the Association's entertainments committee, with Mr. A. J. Gray as convener.

NORTH LONDON

Time Saved on Speeches

By telescoping the toast list, North London Pharmaceutical Association ensured ample time for dancing and floor show at their annual dinner and dance on March 19. Mr. A. George Felton presided over an attendance of 150. "The Queen" and "The North London Pharmaceutical Association" were pledged without speeches, and Mr.

Felton, in proposing "The National Pharmaceutical Union, the Ladies and the Guests," described the N.P.U. as "still one of the finest organisations in this country and the world," adding words of tribute to the ladies, and giving a general welcome to the guests, most of whom had previously become known by rising to take wine with their chairman. Two replies were given—for the ladies with charm and aplomb by Mrs. H. Noble; and for the N.P.U. by its chairman (Mr. Donald W. Hudson), Mr. Hudson approached his task, he said, with mixed feelings of pleasure, regret and a sense of responsibility. The N.P.U., set up for the guidance and protection of practising retail pharmacists, was responsible both to its members and to the profession. It was not easy to adjust the two outlooks and secure a common focus. In the two major problems facing pharmacy (ethics and the recognition of assistants) it was not for either the Pharmaceutical Society or the N.P.U. to act alone. The call was for a well thought out combined operation.

WEST LONDON

Forecasts by the Vice-president

THE annual dinner and dance of the Western (London) Pharmacists' Association, held in London on March 26, attracted generous support from members of all the other London associations. The Association president (Mr. B. J. Thomas) who, with the vice-president of the Pharmaceutical Society (Mr. T Heseltine) and Mrs. Heseltine, received the guests, had unfortunately to do so in the absence of his wife, who was on the sick list. The toast of the "Pharmaceutical Society" was proposed by-believe it or not-the sccretary of the National Pharmaceutical Union (Mr. H. Noble), who admitted that the circumstance was unusual, but declared that nothing was further from the truth than to suppose that the two bodies were opposed. The present president and vice-president of the Society had both learnt their job with the N.P.U., of which both had been chairman. Mr. Noble was not prevented by his friendship for the Society from making some penetrating com-ments on its finances. The Society managed, he summarised, to overspend considerably and yet retain its dignity. In his response, MR. HESELTINE acknowledged the friendly and "unique" manner in which the toast had been prepared, and went on to thank each and every member of the Society for their work on behalf of the Society and of pharmacy. Without the help of the members the Council would not be doing such a good job of work. On the subject of the "code of ethics" Mr. Heseltine forecast that the revised revision would be accepted by every pharmacist with the good of the profession at heart, and that, if pharmacists turned down the Council's report on recognition of assistants, that would be the end of the matter. MR. J. C. HANBURY proposed the toast of the "Association" and Mr. B. J. Tho-MAS replied.



ABERDEEN ASSOCIATION DINNER: In the group photographed at the annual dinner and dance of the Aherdeen Pharmaceutical Association, held on March 18, are Messrs. W. R. McNeil (secretary, Aherdeen Local Pharmaceutical Committee), M. S. Maconochic, Dundee (a member of Executive Scottish Department of the Pharmaceutical Society), W. S. Taylor (secretary, Aherdeen and North-eastern Scottish Branch of the Society), C. A. Michie (chairman, Aherdeen Local Pharmaceutical Committee), Kiantia, Mauritius (representing students of Aherdeen School of Pharmacy), W. A. Park (chairman, Aberdeen and North-eastern Scottish Branch, and a member of Executive of Scottish Department), W. T. Elder (a member of Council), R. J. Cowic (vice-president, Aberdeen Pharmaceutical Association, and a memher of Executive, Scottish Department), W. C. D. Bain (president, Aherdeen Pharmaceutical Association), A. A. Meldrum (a member of Council), and C. W. Macfarlane, Dundee (a member of Council).

STRONG OPPOSITION TO REGISTRATION

One Dissentient from Bristol Resolution on Pharmacy Assistants

A MEETING of the Bristol Branch of the Pharmaceutical Society held in Bristol recently discussed the policy of the Society's Council on the registration of pharmacy assistants. Mr. D. Baldwin (vice-chairman) presided. The following resolution was passed with one dissentient:—

passed with one dissentient:—
"The Branch is strongly opposed to any suggested listing or registration of assistants by the Pharmaceutical Society and unless the Council is willing to postpone its decision until after the next annual meeting demands that a special meeting be convened in accordance with the provisions of the Charter of 1843."

The Branch Chairman (Mr. W. Cooper) said that the listing of assistants by the Pharmaceutical Society would be a direct encouragement to

bodies like the Guild of Dispensers to press their "extravagant dcmands." Whenever the Society had had anything to do with the matter of assistants it had always been disastrous. Such a list, he said, would be uscless to anyone and indeed it was likely that it would be boycotted by those whom it was intended to register. The manner in which the Council had endeavoured to stampede the electorate into accepting their policy ought to be vigorously opposed. The suggestion that there was pressure from outside would not bear any examination since no Ministry or other responsible body would be likely to press for a useless list of names of persons whose powers would not be altered in any way by

inclusion thereon. The suggestion that there was nccd for haste was also ludicrous inasmuch as any interested body could make a list at any time irrespective of whether the Pharmaceutical Society did so or not. Mr. Cooper drew attention to the fact that since it was no longer necessary to hold a general meeting to pass a by-law, the only practical control which the electorate had over the Council was at the annual election and, therefore, that had endowed them with an importance which did not seem to be realised by the majority of the electors. Electors should inquire from the candidates what their exact policy was on matters of current importance.

matters of current importance.

MR. H. LONG said that claims on behalf of various classes of "dispensers" were not new-their intensification was a natural result of the progressive raising of educational and training requirements for pharmacists. Until pharmacy itself laid down standards of competence thought to be necessary for its assistants, public misapprehension regarding the standard of the various groups of "dispensers" must continue to the disadvantage of pharmacists. It was desirable that the determination of standards of competence required at all stages in the practice of pharmacy should remain where it properly belonged—in the hands of the Society. Much of the opposition to that idea arose from the "spectre of 'dilution'" but opposition had been more vehement than reasoned.

Further discussion showed that there was no objection to a list of assistants being made but that the Pharmaceutical Society ought not to make it.

NORTHERN IRELAND HEALTH BOARD

THE issue of aureomycin and terramycin to general medical practitioners in Northern Ireland has been approved by the liaison committee representing the Northern Ireland General Health Services Board, the Hospitals Authority, the Tuberculosis Authority and the Association of Health Committees.

A report of a discussion on the subject which came before the Health Services Board at its meeting in Belfast on March 25 stated that in Great Britain supplies were issued from regional distribution centres and that general practitioners obtained free supplies for the treatment of specified clinical conditions. On behalf of the Board it was suggested that hospitals should be the distribution centres in Northern Ireland and that the control should be simplified as far as possible.

PROFESSOR F. M. B. ALLEN commented that it would be more economical in certain cases to supply the drugs direct to the practitioners for the treatment of patients at home rather than that patients should be treated in hospital.

When the minutes came before the Board, MR. H. W. GAMBLE said it seemed to be suggested that doctors would collect the drugs from the hospitals. It would mean that they would not get them quickly enough and he doubted if the Board had the power to make such arrangements for the ADVISER THE MEDICAL pointed out that the same thing happened with all new drugs before they were released to the general public.
MR. GAMBLE said that the pharmaceutical bodies would take the matter up with the Ministry of Health and Local Government.

The Board's Medical Advisory Committee, on the recommendation of the Drug Pricing Committee, agreed to point out to doctors in the next Medical Bulletin specific cases in which chemists had experienced difficulty through doctors' failure to put full instructions on prescriptions, and stressing the necessity for full directions in all cases. A warning will also be included against the possible danger of

writing prescriptions for two or more persons on the same form. The committee also decided to refer all cases of apparently excessive prescribing of Anahæmin to the Central Medical Committee.

The Executive Committee considered a case in which it appeared that a patient had been advised by a supplier to request a doctor to specify on a prescription for a truss a particular brand for which the supplier was the local agent. The doctor had complained to the Board that the contractor had interfered with his prescribing. The contractor, in a letter, said the information given to the patient was entirely factual and in response to the patient's inquiries. The committee decided to refer the case to the Services Committee.

CHEMICAL DANGERS TO PUBLIC HEALTH

At the seventy-ninth annual meeting of the Society of Public Analysts and Other Analytical Chemists in London on March 6, Dr. J. R. Nicholls (the retiring president) gave an address on "Public Health Hazards and the Analytical Chemist."

DR. NICHOLLS said that while any legislative control to minimise public health hazards must be founded on medical and pharmacological advice, it was the chemist who gave evidence to enforce such control. Public health hazards included pollution of the air with carbon dioxide and dust, leading to the formation of fogs; and hazards from the presence of trace elements in water; hazards from food; clothing; cosmetics; and household matters. Hazards due to chemicals could not be appropriately controlled by statutory tolerances; a chemical should either be permitted or forbidden. It was necessary to review periodically any such control, and that could only be achieved by a permanent body of which the Poisons Board was an example. An important problem was the hazard arising from the use of chemi-cals whose harmlessness had not been proved. A standing committee should review the evidence for the use in food

of any new chemical. The use of artificial sweeteners illustrated that point. Recent toxicological tests had shown saccharin to be completely harmless, but dulcin had harmful effects on different species of animals at certain concentrations and under specified conditions. It would justify such a standing committee banning the use of dulcin. Another sweetener, P 4000, had been advertised abroad as completely harmless to humans, but the tests were not disclosed. In more extended tests in the United States harmful effects were produced in animals, which showed the importance of prescribing the test conditions. The proposed standing committee would not permit the use of P 4000 in food until it had reviewed the results of adequate tests.

A subcommittee of the Food Standards Committee was considering the question of food colours. Colours in cosmetics should be controlled, and that control should be acceptable to industry, which bears the ultimate civil liability for any hazards that might occur.

The following officers were elected:—President, Dr. D. W. Kent-Jones; Treasurer, Mr. J. H. Hamence; Secretary, Mr. K. A. Williams.

NEW COMPANIES

P.C. = Private Company; R.O. = Registered Office

ALCHEM PROCESSES, (P.C.).—Capital £1,000. To carry on the business of chemical engineers, etc. David L. Shaw and John I. Peters, directors. R.O.: 36 Peckham Road, London S.E.5.

W. C. HALLS & CO., LTD. (P.C.).

—Capital £5,000. To carry on the business of manufacturers of and dealers in chemicals and similar substances, etc. Leonard Watson is the first director. R.O.: Eastern Terrace, Beacon Hill Road, Newark.

CHLOROPHYLL & DERIVATIVES, LTD. (P.C.).—Capital £10,000. To carry on the business of manufacturers, importers and exporters of chlorophyll and allied products, etc. Philip Blackman and Adolph Perelmann, directors. R.O.: 1 Laurence Pountney Hill, London, E.C.4.

HILLS & MORTON, LTD. (P.C.).-Capital £1,000. To carry on the business of merchants and traders; to manufacture, pack and market disinfectants, detergents, etc. Robert J. Hills and Julian F. L. Morton, directors. R.O.: 65 Sackville Gardens, Ilford, Essex.

DAVIS (CHEMICALS), LTD. (P.C.). -Capital £500. To carry on the business of manufacturing and dispensing analytical chemists and druggists, etc. Ronald L. F. Harding, Victor Gold-man, Harry Powell and David Cook, directors. R.O.: 56 Beaufort Avenue, Kenton, Harrow.

SWALE CHEMICALS, LTD. (P.C.). -Capital £5,000. To carry on the business of manufacturers of and dealers in chemicals and other preparations, etc. Thomas F. J. Collins, Andrew M. Craig, Rowland Hunt and Robinson, directors. R.O.: inchester Street, Salisbury, Jack A. Winchester Wilts.

BOAKE, ROBERTS & (MANUFACTURING), LTD. (P.C.).
—Capital £100. To carry on the business of chemical manufacturers, chemists, distillers and drysalters, etc. Kenneth F. Burtsal and Alfred P. Halberstam, subscribers. First directors are not named. Solicitors: Coward, Chance & Co., St. Swithins House, Walbrook, London, E.C.4.

W. SPENCE CULBERT, LTD. (P.C.). — Registered in Edinburgh. Capital £15,000. To acquire the business of W. Spence Culbert, 11 Stirling Street, Airdrie, and to carry on the business of dispensing and photographic chemists, druggists, etc. W. Spence Culbert, M.P.S., Betty S. Culbert, M.P.S., and (Mrs.) W. M. S. Hamilton, directors.

INDUSTRIAL BRITISH VENTS (KENFIG), LTD. (P.C.). -Capital £100. To carry on the business of manufacturers of acetic acid, acetone, butyl alcohol, and other chemical products, etc. W. Neil Holdgate and A. M. Cook, subscribers. Directors are to be appointed by the subscribers. R.O.: 4 Cavendish Square, London, W.1.

H. C. W. GREENWOOD, LTD. (P.C.).—Capital £5,000. To acquire the goodwill and assets of the business of a chemist, carried on by the executrix of the late H. C. W. Greenwood, at 159 Church Road, Yardley. Birmingham; and to carry on the business of wholesale and retail chemists, opticians, etc. Mary E. Greenwood, William M. Greenwood and Thomas C. Wal-William ton, M.P.S., directors.

Company News

IMPERIAL CHEMICAL INDUSTRIES, LTD.—Messrs, S. B. Cormack and C. G. Harris have been appointed to the board of the general chemicals division.

MANCHESTER OIL REFINERY, LTD.—The company has transferred the whole of its undertaking to a subsidiary company, Barton Refinery, Ltd. The subsidiary has undertaken responsibility for all the outstanding liabili-ties of Manchester Oil Refinery, Ltd.

JOHNSONS OF HENDON, LTD.-As a result of an internal reorganisation the business will be carried on from April 2 by its wholly-owned subsidiary, Houghtons (Holborn), Ltd., whose name it is intended shortly to change to Johnsons of Hendon, Ltd. The parent company will act as a holding company and will own all the shares in the new subsidiary company.

ROBERTS WINDSOR SOAP CO., LTD.—The company is to put its associated company, Pure Products Soap Co., Ltd., Nottingham, into liquidation with effect from March 31. Roberts Windsor, Co., Ltd., has already been responsible for the marketing of remaining Pure Products' lines since the merger, and will remain so responsible. The name of Pure Products Soap Co. will be retained merely for marketing of certain lines.

THE WEEK IN PARLIAMENT

By a Member of the Press Gallery, House of Commons

MR. H. W. BOWDEN asked the Minister of Food on April 1 if his attention had been drawn to the serious position in which manufacturers of soft drinks found themselves through the cut in import licences for sweetened syrups; and if he would issue addi-

tional sugar in lieu.

MAJOR G. LLOYD GEORGE (Minister of Food) replied that he had received representations about the reduction in import licences for flavoured syrups, 'but I cannot find more sugar without using supplies urgently needed elsewhere." In answer to a supplementary question he promised to do "every-thing possible" for manufacturers who commenced to manufacture after the war, who had no sugar allocation before the war and were not users of sugar, and who had relied almost exclusively upon their present supplies.

Pharmacy Bill

The Pharmacy Bill was discussed by Standing Committee B on April 1, and was ordered to be reported without The following members amendment. were added to the Committee in res-

pect of the Bill:

messrs. Robert Allan, A. Blenkinsop, Wing Commander Eric Bullus, Sir David Campbell, Messrs. W. G. Cove, B. Craddock, G. Finlay, J. Grimond, J. Hall, S. Hastings. H. E. Holmes, Miss P. Hornsby-Smith (Parliamentary Secretary to the Ministry of Health), Messrs. J. Hudson, H. Hynd, H. N. Linstead, F. Messer, G. R. Mitchison, Dr. H. Morgan, Messrs. E. Partridge, M. Philips Price, Sir H. Roper, Col. M. Stoddart-Scott, Dr. B. Stross, Sir Wavell Wakefield, Mr. W. T. Williams. Mr. G. R. MITCHISON withdrew an amendment: "on having passed in all subjects of the final examination for

subjects of the final examination for such a degree," after an objection by MR. H. N. LINSTEAD. MR. MITCHISON then moved amendments proposing to lift the "ceiling" on premises fee so that the Pharmaceutical Society could put up those fees and to leave a £2 "ceiling" on the personal fees, sub-ject to an Order in Council altering that amount, subject to an affirmative Resolution.

Mr. Somerville Hastings said that if the amendment were accepted he saw

some danger that one of the oldest and most distinguished of the professional associations might cease to have the interest which it now had for its members on the scientific side and would become commercialised and an association of shopkeepers.

MR. H. N. LINSTEAD, declaring himself in favour of the Bill rather than the amendment, asked: "If the members of the Society prefer to take money out of their own pockets to pay for the affairs of the Society instead of calling upon the large commercial concerns who happen to be operating in the pharmaceutical field to do so, is it for Parliament to say that they should not do it in that way?"

The amendments were defeated by

sixteen votes to seven.

Drugs to Private Patients

MISS P. HORNSBY-SMITH (Parliamentary Secretary to the Ministry of Health) told SIR E. KEELING on April 2 that the cost to the taxpayer of giving under the National Health Service drugs, dressings and appliances to private doctors' patients after deducting the shilling prescription charge might be nearly £1½ million per year.

BUSINESS CHANGES

MR. A. HAWKINS, M.P.S., has opened a pharmacy at Wentworth Street, Portree, Skye.

DIAMOND MILLS PAPER CO., LTD., manufacturers of Bromo toilet paper, have removed to 164 Union Street, London, S.E.1 (telephone: Waterloo 5871).

J. FARRER-BARNES, LTD., 38 Banks Road, Liverpool, 19, took over the pharmacy of the late Mr. J. Deverley. M.P.S., at 682 Aigburth Road, Cressington, Liverpool, 19, on March

Appointments

MR. ALFRED COLLINS, M.P.S., F.N.A.O., has taken over the office of managing director of Cuthberts (Lancaster), Ltd., chemists, 70 Cable Street, Lancaster.

INQUESTS

Susceptible to Diamorphine.—At an inquest at Witham, Essex, recently, a verdict of misadventure was recorded on a doctor's wife who had taken diamorphine for indigestion. A Home Office analyst said that the woman must have been very susceptible to diamorphine. In the organs was only a medicinal dose of diamorphine.

Chloramphenicol Causes Death.—At an inquest at St. Pancras, London, recently, on a fifteen-year-old girl, it was stated in evidence that chloramphenicol administered to her checked an infection from which she was suffering and which was insensitive to penicillin, but damaged her blood system, as a result of that she died. Verdict was death from misadventure.

Labelling criticised.—At an inquest at Grantham recently on a baby who died in hospital from mercuric chloride poisoning, the coroner commented that the word "poison" on the label of a bottle containing mercuric chloride tablets which the child had swallowed was printed in red on a pink background, and appeared to be no larger than the words "not to be taken internally." He suggested that, if a poison were "deadly," it should be so stated on the label. A verdict of accidental death was recorded.

LEGAL REPORTS

Pharmacy Act Fines. — At Nottingham, on March 18, Hulmes (Notting-ham), Ltd., 82 Parliament Street, Nottingham, were fined a total of £30, with £5 5s. costs, on charges to which they pleaded guilty, of unlawfully selling (not being an authorised seller of poisons) a medicinal preparation containing dextroamphetamine sulphate; selling the poison in a container not labelled with the name of the poison; not labelling the container with the proportion of poison in the total ingredients; selling the poison to a person not known by them and not being certified in writing; making no entry in their poisons register for the sale; using the title "dispensing chemists" when not registered as such; unlawfully using the description "pharmacy" in connection with the business. The circumstances were that on November 25, 1952, an agent of the Pharmaceutical Society's inspector was supplied by an assistant in the company's shop with twenty-five slimming tablets containing the poison. The assistant was not a qualified chemist, and the company had ceased to be authorised sellers in June 1952. For the company, it was stated that they had thought that all the drugs on the premises were disposed of after Junc. In fact, an inspector had supervised the destruction of most of them. There had been no deliberate attempt The Llanidloes Farmers Co-operative Society, Ltd., were fined a total of 30s. by the Llanidloes magistrates recently for three offences results call in the contract of the co for three offences, namely selling poison in a container not labelled in the prescribed manner; selling a Part II poison when not a seller on Montgomery County Council's list; and delivering a listed poison without causing an entry to be made.

DEATHS

AVERILL. — In Lichfield Victoria Hospital on April 5 after a long illness, Mr. Cecil Hanson Averill, M.P.S., 4-6 Conduit Street, Lichfield, Staffs, agcd seventy-eight. Mr. Averill was an alderman of Lichfield and had served on the city council for twenty-five years. He was mayor twice (1946-47 and 1935-36), and he also served for a period (1925-26) as sheriff of the city. While mayor he welcomed to the city the late Duke of Kent, Duchess of York, the late King George VI and Queen Elizabeth the Queen Mother. Among other civic duties he was a justice of the peace and formerly served as voluntary captain of Lichfield's fire brigade. He made a tour of the world in 1934. Mr. Averill qualified in 1898 and had been in business in Lichfield since 1900. He is survived by his widow and an adopted son, Mr. L. P. Averill, M.P.S. Mr. Averill was one of the oldest members of the South Staffordshire Hunt.

BULL.—Recently, Mr. Edward Reginald Bull, M.P.S., I Second Street, La Rochelle, Johannesburg, South Africa. Mr. Bull qualified in 1905.

BURKINSHAW. — Recently, Mr. Alfred Burkinshaw, M.P.S., 8 Market Place, Belper, Derby, aged eighty. Mr. Burkinshaw had been in business in Market Place, Belper, for more than twenty-five years prior to his retirement six years ago.

CHRISTIAN.—On March 17, Mr. John Edward Christian, M.P.S., 19 Rowland Avenue, Kenton, Middlesex. Mr. Christian qualified in 1925.

CLEGHORN.—On March 18, Miss Christian Brown Matthew Cleghorn, M.P.S., Clifton, Alyth, Perths. Miss Cleghorn qualified in 1919.

HAMPSON.—Recently, Mrs. E. M. Hampson (a director of Jeffreys, Miller & Co., Ltd. (Malt Extract), Leyland Mills, Wigan).

HILLS.—On March 1, Mr. C. Hills, Exeter (representative in the Southwestern counties of England, of Meggeson & Co., Ltd.).

HUNT.—On February 24, Mr. Laurence Cecil Hunt, M.P.S., 62 Kelmscott Road, Battersea, London, S.W.11, formerly of 37 York Road, Battersea, aged sixty-four. Mr. Hunt qualified as a chemist and druggist in New Zealand and in 1926 registered as a chemist and druggist with the Pharmaceutical Society of Great Britain.

JEWSON. — On February 20, Mr. William Thomas Nicholas Jewson, M.P.S., The Chalet, Oakdale Road, Carlton. Nottingham, aged eighty-three.

KENDALL. — Recently, Mr. Edwin Kendall, M.P.S., whose address in the register of chemists and druggists was 5 Kenmore Grove, Moore Avenue, Bradford, Yorks. Mr. Kendall qualified in 1935.

LYON.—At his home 277 Pickhurst Rise, West Wickham, Kent, Mr. Cecil Holmes Lyon, O.B.E., F.C.I.I. (clerk to the London Executive Council), aged sixty-seven. Mr. Lyon was appointed deputy clerk to the London Insurance Committee in 1932, and clerk to the Council in 1949.

MACKIE.—At Ardaros, Peterculter, Aberdeens, on March 27, Mrs. Isabella Paterson Mackie (wife of the late Mr. Alex Mackie, M.P.S., Peterculter).

McIVOR.—On March 8, Mr. Allan Adam McIvor, M.P.S., 5 Elmington Road, Camberwell Green, London, S.E.5. Mr. McIvor qualified in 1924.

SHACKLETON.—On March 20, Mr. George Harry Shackleton, M.P.S., 9 Cross Street, Abergavenny, Mon, aged seventy-cight.

SINCLAIR. — At Rosebery Place, Gullane, East Lothian, on March 29, Mr. James Pettigrew Sinclair, M.P.S. Mr. Sinclair was born in 1875 and served his apprenticeship at East Linton, East Lothian. After qualifying in 1897 opened his own business in Gullanc two years later, and continued in business there until retiring about two years ago. He is survived by his widow and a pharmacist son, Mr. Robert Sinclair, Ph.C., J.P., who succeeds him in the business.

SMITH. — At Woodend Hospital, Aberdeen, on March 26, Mrs. Edith Gibson Smith (widow of the late Mr. William Davidson Smith, M.P.S., Balmoral Place, Aberdeen).

THOMAS.—At St. Paul's Hospital, London, on March 24, Mr. Haydn Thomas, M.P.S. Mr. Thomas was a partner in the business of Harrison & Howells. 150 Merton Hall Road, Wimbledon, London, S.W.19. He qualified in 1923, and was a past vice-chairman of the Wimbledon Branch of the Pharmaceutical Society.

WALLACE. — On March 25, Mr. John Wallace, M.P.S., 131 Blackwell Road, Carlisle, aged fifty-one.

PERSONALITIES

MR. EDWARD J. MASSAGLIA has been appointed administrative vice-



president of all foreign trade subsidiaries of Chas. Pfizer & Co., Inc., New York. Mr. Massaglia, who joined the company as a production superviser in 1943, has been recently director of sales development for the company's foreign sales sub-

sidiary organisation.

MR. H. E. CUTHBERT, M.P.S., resigned from Cuthberts (Lancaster), Ltd., dispensing chemists, on March 31 (see p. 360),

MR. WILLIAM SPENSLEY WAIN, M.P.S., Ripley, Derbys, has retired after practising pharmacy for sixty years. Mr. Wain was apprenticed in Ripley in 1885 and on qualifying as a chemist and druggist in 1893 took over from an uncle the shop where he served his apprenticeship. He is a Freemason and a past-president of the Ripley Town and Trade Association (now the Ripley Chamber of Trade and Commerce).

MACHINERY, PLANT AND INSTRUMENTS

Mixing Machines.—Mitchell mixers for the pre-emulsifying of creams, for mixing medicines, hand lotions, etc., are available from L. A. Mitchell, Ltd., 37 Peter Street, Manchester, 2.

Carboys.—Carboys, packed carboys, carboy tilters and barrows, safety crates, and top protectors are available from Leigh & Sons Metal Works, Ltd., Orlando Street, Bolton, Lancs.

Tubes and Containers.—As described on another page, Universal Metal Products, Ltd., Salford 6, Lancs, produce a wide range of collapsible tubes and other containers.

Collapsible Tubes, — Impact Extrusions, Ltd., Impax Works, Browells Lane, Feltham, Middlesex, can supply tin, lead, aluminium, and tin-plated lead collapsible tubes from stock in 1 gross lots and upwards. Price list and samples are available on request.

Geiger Müller Tubes.—Improved design has enabled the General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2, to offer Geiger Müller tubes with longer life, larger pulse amplitude and lower operating voltage than the earlier GM 4 tube,

Autoclaves. — Pentecon autoclaves are thermostatically controlled; light to handle because they are made from a special aluminium alloy; and are economical to operate as well as being inexpensive initially. They are made by Joseph Sankey & Sons, Ltd., Albert Street Works, Bilston, Staffs.

Self-feeding Gumming Machine.— The Newman self-feeding gumming machine supplied by D. Trapow & Co., Ltd., 113 Regent's Park Road, London, N.W.1, provides up to 120 gummed labels a minute by touch-bar control. A detailed specification will be sent on request to the company.

Bottle Washer.—The Adelphi bottle washer made by the Adelphi Manufacturing Co., Ltd., 20 Duncan Terrace, London, N.1, is suitable for washing any type of bottle. Sprinkler necks can be thoroughly washed at the rate of up to 400 per hour. The machine is easily connected to any mains supply tap.

Foolproof Filling.—It is claimed that the Aibro' valveless vacuum-operated fifteen-head rotary filler for liquids is fast and foolproof. Fully automatic, the machine which is made by Albro Fillers & Engineering Co., Ltd., Wharf Road, Ponders End, Enfield, Middlesex, has an output of up to 100 bottles per minute.

Grinding Machines.—William Gardner & Sons (Gloucester), Ltd., Bristol Road, Gloucester, claim to have the largest modern range of grinding machinery. Single or multiple ball and pebble mills, disintegrators, vertical grinders and vertical attrition mills as well as special machines designed to order are supplied by the company.

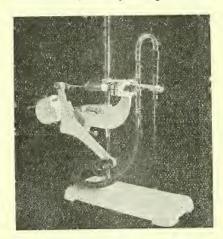
Mercury-vapour Detector. — As a means of indicating the amount of mercury vapour present in an enclosed atmosphere, either continuously or at intervals, Hanovia, Ltd., Slough, Bucks,

have put on the market an instrument which absorbs the mercury vapour of ultra-violet rays at a wave-length of 2,537 angstrom units. Inquiries should be addressed to the company.

Heating Equipment. — Under a change of sales policy announced by Hurseal, Ltd., 229 Regent Street, London, W.1, the company is now dealing direct with wholesalers and retailers in supplying all types of heating equipment. Branch offices and stores have been opened at 317 Chester Road, Sutton Coldfield, Birmingham, and 23 Strutt Street, Manchester, 2.

Powder Mixers. — Pascall powder mixers are designed to distribute the various powders evenly throughout the mass quickly and efficiently. They are fitted with removable agitators, self-emptying troughs and safety devices. Trough capacities are available between 2 and 18 cu. ft. The manufacturers are the Pascall Engineering Co., Ltd., 114 Lisson Grove, London, N.W.1.

Filling Machine. — The Fillmaster ampoule, bottle and vial filling machine with "aid-fill auto-centring" filling stem is made by Mark-O-Print, Ltd., Station Path, Putney Bridge Station,



Fulham, London, S.W.6. The machine is simple, portable, hand-operated, low-priced, and precision built. It gives dripless filling of pharmaceuticals, etc., into containers of $\frac{1}{2}$ to 40 c.c. at a rate of up to 1,000 per hour.

Process Plant.—Process plant including mixers; blenders; filter presses; hydro extractors; crushers; disintegrators; driers; ball mills; tube mills; jacketed pans; glass lined, rubber lined, and stainless steel equipment; vacuum and refrigeration plant; and distillation equipment is available from George Cohen, Sons & Co., Ltd. (The 600 Group of Companies), Wood Lane, London, W.12.

Spectrophotometers, — Catalogue H recently issued (December 1952) by the Hilger division of Hilger & Watts, Ltd., 98 St. Pancras Way, London, N.W.1, gives essential details of instruments for photoelectric, ultra-violet and infra - red spectrophotometry; colorimeters, fluorimeters, microphoto-

meters, etc. Separate leaflets are also issued giving complete details and specifications of the instruments listed in the catalogue.

Plant Heating by Infra-red Jacket.—
"Tailor-made" heating jackets to give uniform distribution of heat over part of or the entire surface vessel or pipe line is provided in the Stabilag system of the Stabilag Co., Ltd., 1 Broad Street Buildings, London, E.C.2, who claim that it has never caused a "hot spot." The system gives control of temperature to fine limits over a wide range. An illustrated pamphlet describing the method is available from the company.

Hydrometers, etc.—H. J. Elliott, Ltd., makers of laboratory glassware, E-mil Works, Treforest Trading Estate, Ponty-pridd, nr. Glamorgan, have resumed manufacture of hydrometers of all types including 6 in. and 9 in. Twaddell, specific-gravity and density, and Baumé, saccharometers, etc. Messrs. Elliott also produce a range of reagent bottles with interchangeable and unbreakable stoppers that lock without leaking or "freezing."

Plastic-protected Plastic Punches.— The tablet punches and dies of Manesty Machines, Ltd., Speke, Liverpool, 19, are now being dispatched with a protective plastic coating that can be removed by piercing with a sharp wooden stick (a knife may damage the punch or die). The plastic is applied by a hot dipping process using a Nylon thread that is removed when the plastic covering is taken off. The process leaves a protective coating of oil and the oil should be wiped off if the punch or die is to be used immediately.

Mechanical Mixer.—Because of increased demand and production the Chemix minor electrically driven mixer made by F. & R. M. Harris (Birmingham), Ltd., 17 Doe Street, Birmingham, 4, has been reduced in price. The machine which will handle quantities of material up to one gallon has a patent variable speed control to give constant speed whatever the load. A handle on the motor enables the unit to be instantly removed from the stand. A stainless-steel marine-type propeller is fitted as standard. A new illustrated folder of other Chemix mixers is now available from the manufacturers.

Selection of Filling Machines.—The Centrac machines of the Banister Street Works, Ltd., 18 De Beauvoir Road, London, N.1, include a power-driven miniature filler for ampoules and bottles up to 3 c.c.; hand-operated and power-driven volumetric liquid filling machines; the No. 24 high-speed filler for tins, pots and jars with a filling speed of up to 200 containers a minute; hand-operated tube closing and folding machine, and automatic tube filling, closing, and crimping machine; a rotary jar filler; and the No. 5 pot, jar, and tin-filling machine for creams, ointments, and heavy pastes.

Glareless Lighting Units. — For use where good appearance needs to be combined with high photometric efficiency, Holophane, Ltd., Elverton

Street, London, S.W.1, offer an entirely translucent all-glass unit embodying a glass canopy and based on the company's Holophane system of prisms. The units, known as Lumilux, have prisms chosen to give a sparkle without glare in all normal conditions. A combined glass canopy and reflector makes unnecessary a separate canopy and gives strength to the unit. The units are available in white or Correctalite glass, for use with 150- or 200-watt filament lamps.

Stirring and Mixing Machine. — A stirrer that will effectively stir and mix all forms of liquid and semi-liquid is the fluid agitator-emulsifier of Fluid Equipment Co., Ltd., 83 Seafield Road, London, N.11. Models are available with either fixed or variable speed motors. The machine will deal with a mix of several gallons or can be used for the preparation of one to two gallons of emulsion. A special folding rotor able to pass through an orifice of in can be supplied so that mixing can be done in a winchester. The

stirrer can also be adapted for use as a power source to drive other apparatus such as powder mixers. Machines can be supplied to deal with up to 1,000 gallons of liquid or plan can be specially designed for any particular requirements.

A New Laboratory Mixer.—The new No. O Duplex mixer produced by the Morton Machine Co., Ltd., Wishaw, Scotland, enables tests in the laboratory to be carried out in the conditions of mixing similar to those employed in actual factory production. The mixing container is of stainless steel with stainless steel Z-type beaters running in self-lubricating bearings which ensure that no contamination affects the The body of the container can mix. be fitted with a steam jacket or a vacuum lid. A Perspex lid cnables the operator to keep the mix under observation and prevents any access to the beaters whilst they are in motion, the machine being operated by opening or closing the lid. Drive is by chain from the motor to a two-speed gear-box and

thence by precision machine cut gears to the beaters. The total capacity is 7 pints (5 pints working capacity).

Laboratory Homogenisers.-For producing fine suspensions, emulsions and solutions in the laboratory, Measuring & Scientific Equipment, Ltd., 14 Spenser Street, London, S.E.I, offer the Nelco 10 homogeniser. It has a capacity of 25-100 mils, four stainless steel blades with knife edges, controlled speed up to 14,000 revolutions per minute, heat-resisting glass beaker shaped to promote vortex action of its contents and holder that can be filled with boiling water or ice according to temperature of working desired. Beaker, blending assembly, impellor shaft and liquid check can be removed for heat sterilisation. Details of the homogeniser and of the company's Ato-mix laboratorymodel blenders are given in a folder 131/R1 obtainable from the company. Brief details of the company's complete range of laboratory equipment are given in manufacturing-programme leaflet No. 888.

TRADE NOTES

Cartons as Showcards.— To meet ever-increasing pressure on chemists' window and counter space, the makers of Juno-Junipah salts and tablets (Thomas Marns, Ltd., 49 Weston Street, London, S.E.1) are now issuing them in cartons which are, in effect, showcards in miniature. The tablet cartons are reversible and make an effective display in a few square inches of space.

Now Tax-free. — Imperial Chemical (Pharmaceuticals), Ltd., Manchester, state that under Purchase Tax (No. 1) Order (1953) in force from March 28, Minel is exempt from purchase tax.

Coronation Souvenirs.—The Coronation packs of Saville Perfumery, Ltd., 124 Rickmansworth Road, Watford, contain Seventh Heaven perfume and not as previously stated.

A New Mascara.—Rimmel Distributors, 70 Park Lane, London, W.1, draw attention on other pages to their new waterproof, non-smudging mascara eyelash cosmetic in blue-black, dark brown, light brown, green and blue.

Going to Extremes.—First-aid supplies contributed by T. J. Smith and Nephew, Ltd., Hull, makers of Elastoplast, are later in the year accompanying members of the 1953 Cambridge Spitzbergen expedition and the 1953-54 South Georgia survey.

Trade Marks in Dominica.—Assistance in the registration in the Dominican Republic of patents, trade marks, pharmaceutical products, etc., is offered by Gestiones Juridicas y Comerciales, Calle las Mercedes 2, Ciudad Trujillo, Dominican Republic.

Ferrous Gluconate. — Evans Medical Supplies, Ltd., Speke, Liverpool, 19, invite inquiries for bulk supplies of ferrous gluconate, which they are now manufacturing. Under the trade name Ferglucon Messrs. Evans are also mak-



ing available tablets containing 0.3 gm. ferrous gluconate and 1 mgm. aneurine hydrochloride in containers of twenty-five and 250; and an elixir in each fl. dr. of which is 0.3 gm. ferrous gluconate and 1 mgm. aneurine hydrochloride, in bottles of 4 fl. oz.

Miniature "Medical Exhibition."—A comprehensive display of chemists' sundries, drugs, dressings and ethical medical products is permanently to be found at the showrooms of Mawson & Proctor Pharmaceuticals, Ltd., Low Friar Lane, Newcastle-on-Tyne.

Distribution in Syria and Lebanon.
—Georges Abou Adal & Co., P.O. Box 1332, Beirut, Lebanon, and Abou Adal & Machhara Frères, P.O. Box 397, Damascus, Syria, importers and distributors of pharmaceutical products, invite inquiries from British manufacturers desirous of marketing their products in Syria and the Lebanon on an exclusive agency basis.

Single Cotton-wool Towels.—Silcot single towels, size 1, are now available from the manufacturers, Macdonald & Son, Ltd., Hope Mills, Pollard Street, Manchester, 4, in a convenient carton for carrying in the handbag to meet the need of users who want a comfortable cotton-wool towel in a neat pack for travelling. Display cartons, holding one dozen inners, are printed in the

peach and blue tints of the individual cartons.

Reintroduced.—Ilon abscess salve, manufactured by Ilon Chemische Industrie, Freiburg, Germany, has been reintroduced in Britain. The preparation, which contains no antibiotic, is claimed to eliminate boils, carbuncles and abscesses painlessly, normally in four applications, The concessionaire is T. V. Duncan, 181 Blairbeth Road, Burnside, Lanarks, The principal distributors are the New Apothecaries Co., Ltd., 59 Glassford Street, Glasgow, C.1.

Display of Horticultural Preparations. — Tomlinson & Hayward, Ltd., Lincoln, have produced for their stockists the display piece illustrated. The display, which folds flat, is strikingly printed in the Eureka red and yellow stripes at the top with the main background colour a dark green to



throw-up the Eureka packs which are also in red, yellow and black. The display enables the retailer to make a compact yet attractive and varied range of Eureka products. It measures only $17\frac{1}{2} \times 17\frac{1}{2} \times 6$ in.

CENTRAL N.H.S. COMMITTEE

THE full Central National Health Service (Chemist Contractors) Committee met twelve times in 1952 according to its recently published fourth annual report. A number of meetings took place between representatives of the committee and officers of the Ministry of Health, as well as discussions with the British Medical Association, Surgical Instrument Manufacturers' Association, Conservative Party Health Committee and other public bodies on matters affecting the N.H.S. pharmaceutical service. A major part of the committee's time was taken up in securing the removal from the then proposed prescription levy scheme of objectionable features, and in ensuring that the scheme finally adopted could be operated with minimum inconvenience to chemist-contractors and patients. committee records its appreciation of the efforts of local Pharmaceutical Committees and by chemist contractors, which ensured that the scheme went into operation with little friction between chemists and patients. At the end of the year the data submitted in support of claims put forward earlier in the year for increases in the dis-pensing fees and container allowance and for increased pay to offset the cost

of operating the levy scheme was under examination by the Accountants Division of the Board of Trade, acting for the Ministry of Health, and it was expected that negotiations in the Pharmaceutical Whitley Council would be reopened as soon as the Board of Trade had reported to the Ministry of Health.

Health.

The Ministry, at the request of the committee, authorised supplementary payments of 15 per cent. for January and February and 5 per cent. for March, April and May, 1952.

The committee continued to press for a return to full and up-to-date pricing at as early a date as possible.

The routine check on pricing, maintained throughout the year, showed that the general standard of pricing was satisfactory.

The Central Checking Bureau had, in addition, carried out many investigations in connection with suggested methods of dealing with arrears of pricing, with proposals from the Ministry for revision of Drug Tariff basic buying quantities and of the basis of payment for proprietary preparations and, as a result of requests for special check to resolve matters in dispute, from contractors direct or

through Executive Councils and pricing bureaux.

The account of the Committee for 1952 showed an adverse balance of almost £300; but for the increased levy, the deficiency would have been in the region of £1,300. The two conferences held during the year had cost £1,350, and it was probable that that item would continue at the present level for some time to come.

Legal and professional charges were heavier than in 1951, mainly because of the work still being carried out by the consulting accountants in connection with the further dispensing costs

survey.

The following served on the Committee during the year: Representing the Private Contractors, Messrs. A. Aldington, E. A. Brocklehurst, H. B. Coulson, B. Pugh Davies, G. H. M. Graham, T. Heseltine, H. Holmes, D. W. Hudson, H. Steinman, W. J. Tristram, P. Varley; Representing the Company Chemists, Messrs. D. E. Sparshott and W. E. Stokes; Representing Co-operative Societies, Mr. P. Dobson, Mr. H. Steinman was unanimously re-elected chairman of the Committee for the period of office beginning May 1, 1952.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN April Meeting of Council

A MEETING of the Council of the Pharmaceutical Society was held in London on March 31 and April 1, the president (Mr. W. J. Tristram) in the chair.

THE REGISTRAR (Mr. F. W. Adams) read the list of candidates nominated for election to the Council (C. & D., April 4, p. 329). He gave the text of a letter of sympathy at the death of Queen Mary sent on behalf of the Council to the Queen, and of a reply received from Buckingham Palace. Members stood in silence as a mark of respect.

THE PRESIDENT reported with regret the deaths of Mr. Frank Goldby, Ph.C. (C. & D., March 28, p. 309) and of Mr. Cyril Morgan (C. & D., April 4, p. 335).

MR. T. HESELTINE (vice-president) congratulated Mr. Tristram on his election as lord mayor of Liverpool. MR. A. A. MELDRUM, on behalf of his colleagues in Scotland, associated himself with the remarks of the vice-president, MR. G. H. HUGHES supported on behalf of Welsh pharmacists and MR. TRISTRAM acknowledged the congratulations. He was certain, he said, that his election was in no small measure due to the confidence the Council had shown in him.

THE SECRETARY AND REGISTRAR (Mr. F. W. Adams) reported that, since the previous meeting fifty-two persons had been registered as apprentices or students making a total of 158 for the year.

THE TREASURER (Mr. W. S. Howells) in presenting the report of the Finance Committee, stated that the amount received for the Society's flood relief fund was now £11,849. A statement on how the money was spent would be issued at an appropriate time. A contribution of £5 5s. had been received from the Society's Staff Association.

A letter from the Resident Secretary in Scotland (Dr. D. McCall) stated that the Society's new laboratories in Edinburgh would be formally opened by Dr. D. M. Dunlop (professor of therapeutics, University of Edinburgh) on May 27. Members of the Council were invited to be present.

On the recommendation of the Organisation Committee the Council accepted, for inclusion in the agenda of the May Branch Representatives' meeting, all amendments submitted except one. The Council approved the Committee's recommendation that the whole day of September 3 should be devoted to a Branch Representatives' meeting and that the following subjects should be discussed:—(a) "Problems of Practical Training"; (b) "The Future of Latin in Pharmacy."

The Council approved the submission to the Society's annual meeting a scheme for the training, examination and supervision of pharmacy assistants (see p. 365). MESSRS. A. HUGHES and J. M. DOWTY asked that their names should be recorded as having opposed the scheme.

A report of a meeting between representatives of the Society and of the Association of British Pharmaceutical Industry held to discuss the Society's policy regarding certain products for veterinary use was received. The Council decided to call a meeting of representatives of branches that were particularly concerned in order to assemble information on the problems of suppliers of veterinary and agricultural preparations and as a further step in developing the Society's organisation and interests in that field.

The Benevolent Fund and War Aid Committee's report showed that grants amounting to £269 had been made to six widows, four members and a former member. Recommendations for grants amounting to £381 to two members and two widows were approved.

The report of the warden of Birdsgrove House showed that in the month ended March 16 twenty-nine guests had stayed at the home for an aggregate of forty-nine weeks.

The Council considered the report of a preliminary investigation into possible establishment of an old people's home, but adjourned consideration of the matter for two months.

Replies from pharmaceutical organisations in the Commonwealth to the Council's suggestion to hold a meeting in London in September to discuss matters of common interest showed that it was unlikely that sufficient countries could be represented to make a meeting practicable and it was decided not to proceed further with the matter.

The report of the Law Committee showed that in February the Society's inspectors and agents visited 1,074 authorised sellers, 146 listed sellers, and fifty-eight drug-store proprietors and similar traders.

PHARMACY ASSISTANTS

Council's Proposals for Training, Examination and Supervision

In a report on assistants in pharmacy presented to the Branch Representatives' meeting held at Nottingham in 1952, the Pharmaceutical Society's Council gave its reasons for thinking that a standard of training and examination for persons employed as assistants in pharmacies and hospital pharmaceutical departments should be set up.

The Council has now drawn up the following scheme as

the basis for giving effect to these proposals.
(Reference to "a pharmacy" in the scheme includes a "hospital pharmaceutical department" unless the context otherwise indicates.)

- 1. NAME: In describing a person to which this scheme applies the name "pharmacy assistant" will be used.
- 2. TRAINING: This should be of a practical nature carried out in a pharmacy. The minimum period of training should be two years and before admission to the examination a candidate should present a certificate from the pharmacist under whom he has been trained. The training given by the pharmacist may be supplemented by courses of a suitable nature for example at local technical college.
- 3. EXAMINATION: Candidates should be not less than nineteen years of age. There should be a practical examination of three hours' duration and an oral examination.

Practical: The candidate should be required:—

- (i) To prepare, pack and label uncomplicated preparations under conditions existing in a pharmacy;
- To perform exercises showing a knowledge of the routine of a pharmacy.

Oral: The candidate should be able:-

(i) To answer questions indicating an elementary knowledge of (a) the properties of pharmaceutical materials as related to the preparation of medicines; (b) the principles underlying the preparation of medicines; (c) the control of poisons.

(ii) Read simple prescriptions and know drugs and preparations by their English and Latin names and their Latin

abbreviations.

- (iii) Describe the routine for the receipt, recording and dispensing of prescriptions and for the handing over of medicines to the public.
- (iv) To describe dispensary organisation including stockkeeping and storage.
- To give the doses of drugs and preparations in common
- 4. EXAMINING BODY: It is considered that the examination should be conducted by a joint body consisting of representatives of the Society, the Guild of Public Pharmacists and employing interests, e.g., the National Pharmaceutical Union, the Company Chemists' Association, and the Co-operative Union. This would involve seeking the co-operation of the other organisations. The examining body should be responsible for issuing evidence to successful candidates and maintaining a record of such candidates. The examiners should all be practising pharmacists.

5. SUPERVISION:

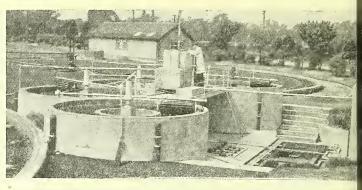
- (a) The function of a pharmacy assistant is to undertake work of a routine nature in the preparation and/or supply of medicines under the supervision of a pharmacist. The training is intended to produce a person who can act as a general assistant in a pharmacy though in practice he or she may be primarily engaged in one branch of work, e.g., in serving customers or in dispensing. Persons employed in a pharmacy exclusively on duties other than those concerned with medicines and medical appliances are not regarded as involved in the arrangements outlined below except where specifically mentioned. Although these arrangements are advanced in connection with the employment of assistants who, it is proposed, should be trained and examined in accordance with this scheme, they are equally applicable to assistants similarly employed in the preparation and supply of medicines who have not been so trained and examined.
- If there is only one pharmacist in an establishment employing an assistant or assistants, the parts of the

- establishment where the assistant or assistants may be employed should be sufficiently close to one another to enable an effective oversight to be maintained. Generally speaking these will be the dispensing and serving counters. Where there is only one pharmacist his absences from the establishment when it is open should be reduced to a minimum. If there are regular absences for appreciable periods, slackness in the conduct of assistants is liable to develop and instructions given to them tend to become ignored.
- In the preparation of medicines control can be exercised by the pharmacist assigning to the assistant the work he is required to do. His function is to perform a fact efficiently. The work should be within the limits be nothing doubtful or obscure about it. Prescriptions should be examined by the pharmacist to see whether they are within the competence of the assistant before being handed over to him and, to ensure that any point which needs to be cleared up with the prescriber is resolved, that information necessary from the patient or messenger can be obtained, and that any explanation which the assistant should have can be given. The checking of ingredients should be undertaken by the pharmacist, who should examine the final product before it is passed for delivery to the patient. Any verbal instructions as to use should also be given by the pharmacist and not by the assistant. At the serving counter, reliance must be placed to some extent on instructions to the assistant to ensure that he does not attempt what he cannot properly perform, since the pharmacist may not be in a position to hear and see everything which goes on.
- (d) There is obviously a limit to the number of assistants one pharmacist can effectively supervise. It may be undesirable or impracticable to lay down a definite ratio between the number of pharmacists and the number of assistants who may be employed. There is, however, need for some indication of numbers particularly when there is one pharmacist only engaged in the establishment. In that case under normal conditions in a pharmacy it is considered that three assistants is the limit. Where an establishment is devoted solely to the dispensing of medicines the number should normally be not more than one. Staff not engaged in the preparation or supply of medicines but under the control of the pharmacist are not taken into account in these figures, but if their number is large it will affect his ability to exercise supervision over pharmacy assistants.

A PHARMACIST'S ANTHOLOGY

"'OWER yer feelin'?" "A little quisby (queer) in the OWER yer feelin? A little quisby (queer) in the Darby" [was Ted Hanley's reply]. (Derby Kelly=belly). "W'y don't yet take sumfink for it?" asked his friend. "Wot'll I take?" "Well, I should advise, in a case like yours, matey, a dose of maggy-neesia." "Oh, indeed," said Ted, "and w'ere d'you get maggy-neesia?" "Any chemist'll sell your maggy-neesia. There's one over the road there, try "and w'ere d'you get maggy-neesia?" "Any chemist! sell you maggy-neesia. There's one over the road there, try 'im." They tipped hats to each other and parted with a mutual "S'long!" Ted stepped across the road to Green Street and entered the chemist's shop. "And what may I do for you today, sir?" asked the chemist. "I'm a little quisby in the Darby," said Ted, "and I'd like a little maggy-neesia." "A little what in the where?" asked the chemist. "Ye know, a little duffman (Duffman Dick=sick) in the innards." Quite," said the chemist, "and what did you want for it?" "A little maggy-neesia," said Ted, raising his voice, "you ain't got clorf ears?" "Will you please tell me again," said the chemist. "I said a little maggy-neesia." "Oh, you mean citrate of magnesia," said the chemist. "Yus, that's right. Ain't that wot I sed?" "And will you have it effervescing, or not?" "Come again," said Ted. "I said, would you have it effervescing or otherwise?" repeated the man behind the counter. "Effer what-you-said or otherwise," repeated Ted (long pause), "in regards to which?"—From "Shake the Bottle," by J. A. Buchanan Taylor. by J. A. Buchanan Taylor.

Modern Methods of INDUSTRIAL EFFLUENT DISPOSAL



ATTENTION TO THE PROBLEM OF THE DISPOSAL OF LIQUID WASTE FROM

NLY recently, and often after costly experience (for example, in the antibiotics field), has the importance of waste disposal to the efficiency of chemical plant begun to be generally realised. Provision for effluent should be considered as seriously as for water, electricity and transport in any chemical undertaking, and particularly when building a new factory. The main ultimate receptacle for industrial waste in Great Britain is its rivers, and to them there are two routes: (1) Via a domestic sewerage system; and (2) direct. The standard of British river water is closely guarded by legislation, and is, in fact, among the highest in the world. That is largely the result of the close control exercised over both of those routes by the authorities.

Where feasible, discharge of the effluent into a local authority's sewer is normally the better and cheaper course for a manufacturer, for then he relinquishes to the local authority the responsibility of producing an effluent acceptable to the River Board. In other circumstances the chemical manufacturer will have to treat his own effluent, usually in a similar way to that adopted by a local authority's sewage works. The legal provisions and obligations of industry and local authorities concerning the discharge of

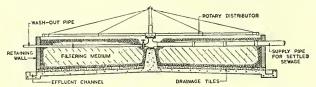


Fig. 1. Section of a percolating filter, [Illustration from Treatment and Disposal of Industrial Waste Waters, by B. A. Southgate (by courtesy of the Controller of H.M. Stationery Office).]

industrial effluents into sewers are laid out in the Public Health (Drainage of Trade Premises) Act, 1937, Under the Act an industrialist has a right to discharge a new effluent into a sewer, but may do so only if he has concluded an agreement with the local authority who owns the sewer. The local authority can charge the industrialist for handling the effluent, and can impose conditions concerning the nature of the effluent, either to protect the workers and plant or to avoid interference with the authority's process, which is largely biological. The conditions may require the industrialist to remove poisons (e.g., metallic poisons, chromates, etc.) or inflammable substances (e.g., ether vapour) from the effluent, or adjust the pH or temperature, etc. The authority may also specify the maximum quantity and rate of effluent to be discharged. An appeal can be made to the Minister of Housing and Local Government.

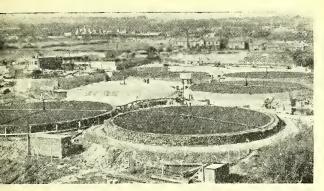
If disposal via a sewer is not available, the industrialist must himself render the effluent acceptable to the local River Board, which is the statutory authority for controlling the quality of the river water. The Boards are given their authority under the Rivers (Prevention of Pollution) Act, 1951, which prohibits "poisonous, noxious or polluting matter" from being discharged into "streams," and allows the Boards to make by-laws (subject to approval

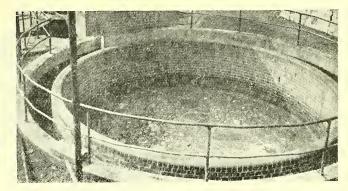
by the Ministry of Housing and Local Government) specifying limits of pollution for the effluent. No Board has yet exercised that power, but by-laws are expected within the next few years. A riparian owner can claim compensation for damage to the property on the banks, and many such claims are pending.

The use to which the river is put governs the nature of the effluent that is acceptable by a Board. If the river is used, for example, for a water supply, then nothing that will convey to the water poisonous or tasting properties or colour must be discharged into it. If the river is used for fishing, the Fishery Authority imposes limits of contamination. Those limits may apply to toxic materials or to insoluble matter, which clogs parts of the river and destroys spawning grounds. As fish may also be destroyed by oxygen starvation of the water, caused by discharging into it too much oxygen-absorbing material (for example, penicillin wastes), the River Board keeps a check on the oxygen content of the water. If the river goes completely anærobic it can become, moreover, a public nuisance by the production of hydrogen sulphide. Farming interests which use rivers for water supplies must be considered, as must the scenic value of the river in certain areas.

Types of Treatment

Treatment of liquid effluent may be by one of the three following types, or a combination of the types: (1) Chemical, for the removal of metallurgical contamination, cyanides, acids, alkalis, etc.; (2) physical, by sedimentation accelerated perhaps by adding coagulants, by vacuum filtering or by micro-screening; (3) biologically—the method of choice, particularly if the organic matter is of natural origin. The treatment must in all cases render the effluent non-toxic, and must reduce its content of oxidisable matter to not more than the equivalent of 20 parts per million "biochemical oxygen demand"—B.O.D. The biological method is tending to be used more widely, and it has been found to work well, even with many toxic contaminants such as phenols, formaldehyde, cyanides and polysulphides. The reason for this is not fully established and may be adaptation of bacteria or the growth of flora that were originally present in small numbers. The method is applied normally on percolating filters, which make use of microbiological agents. During the short time of percolation through the filters the liquid changes from unacceptable sewage to an acceptable water. The filters (see Fig. 1) consist of clinkers, etc., roughly spherical in shape built into a tank or into a stack several feet thick. The sewage is sprinkled evenly over the top, often by rotating arms, and channels are provided beneath the clinker bed for the removal of the treated liquid. The clinker or other medium merely provides a large surface which becomes covered with the bacterial and fungal growth that effects the chemical changes. A filter contains a large population of fly larvæ and other small animals such as worms and springtails. Those animals feed on the growths of bacteria and fungi and help to prevent the filter from becoming choked.





TRIAL CHEMICAL LABORATORIES SAVES UNNECESSARY DRAIN ON CAPITAL

To reduce the nuisance from flies, insecticidal treatments have been devised that will reduce the number of winged insects without killing the other animals in the filter.

A system of effluent disposal that is expected to become increasingly used during the next twenty years is the method of anærobic digestion. Although comparatively new to Great Britain, it has been tried on a large scale elsewhere, and particularly in America. The method is so far empirical, but works successfully in wastes from products of natural origin. It has the advantages that the plant is small and that methane is obtained as a by-product and can be used as fuel for gas engines to power the plant. A disadvantage is that usually only about 90 per cent. of the organic matter is removed, but the remainder can be removed by a subsequent aerobic filtration, the combined method often being cheaper than aerobic filtration alone. It is necessary always to maintain a reasonably constant discharge of an industrial effluent into a sewerage system or river and that can be done by use of a balancing tank. The balancing tank, which often contains two chambers, can also be used for neutralising an acid effluent with a subsequent alkaline one, or vice versa,

If a factory is situated near an estuary, the disposal of waste has usually fewer problems, though it has been found by workers of the Water Pollution Research Laboratory of the Department of Scientific and Industrial Research (see below), that oxygen-starvation of the water at the mouth of a river may ruin the higher reaches of the river as a fishery by preventing migrating fish (for example, salmon) from entering the river. That happened in the river Tees.

Forestalling Disposal Problems

Usually the most economical way to deal with a waste disposal problem is to forestall it. If a new factory is being considered, its site must be chosen carefully from the point of view of waste disposal. The drains of the new building should be isolatable in sections to prevent effluent from one section contaminating the whole of the effluent from the factory. The worst difficulties are often found in old factories with bad drain systems. If the effluent is to be discharged into a river, care must be taken that the discharge point is not, for example, above a waterworks intake.

Often effluent disposal problems can be avoided by a change in the process of manufacture. An increasingly popular method of waste disposal is partially to treat the effluent and to reuse the resulting liquid in the process. Sometimes much can be done by using a counter-current system to produce a small volume of effluent, and by using strong washings to make up the next solution. Sometimes usable material can be recovered (for example, copper and lead). Specialists at the Water Pollution Research Laboratory say that when a by-product is removed a sale for it can often be found. If removal is done at a loss, the loss must be weighed against the cost of dealing with the untreated effluent. At all stages of manufacture care should

be taken to prevent organic material from going into the effluent. The practice of this principle is perhaps best seen in milk or milk-product factories, which now are invariably equipped with a system of trays and cans to catch drips

The liquid effluent from penicillin factories consists largely of a penicillin broth, and trials are being made to dispose of it with sewage. The industry would probably be benefited, however, by finding out whether there may be some use for the broth. In America, for example, the by-products of the alcohol production and fermentation industry are now regarded as valuable material. Vitamins, cattle foods, etc., have been produced from spent still liquor, and it is significant that the name of the liquor has been changed from "slop" to the more dignified "stillage."

Water Pollution Research in Britain

Water pollution in Britain increased greatly with the industrial revolution, when factories clustered round rivers in a scramble for clean water. About 1850 the Government began to take an interest in the pollution, which had then become a serious problem. Later a Royal Commission on Sewage Disposal was set up, and before the 1914-18 war the Commission conducted investigations which led to the foundation of the sewage disposal methods that have been adopted throughout the world. The Commission also recommended the appointment of a Permanent Board on Sewage Disposal, and that Board was established in 1927. The Water Pollution Research Laboratory, now at Watford, Herts, was set up during this year by the Department of Scientific and Industrial Research. It now has its own board under the chairmanship of Professor D. M. Newitt, and its own programme of research, which includes the investigation of trade waste and the improvement of sewage treatment generally. The Laboratory acts also as an advisory body to industry. It has an exhaustive specialist library and publishes monthly "Water Pollution Abstracts." Its advice service to industrialists and others often involves visits to factories to apply known methods to special circumstances, and in those cases a charge is made to cover the cost of the visit. Sometimes that work leads to new full-scale investigations. There are now five water-pollution research laboratories throughout the country, all centred on the Watford Laboratory. The others are at Garston, Herts; Coventry; Birmingham; and Tilbury. A new central laboratory is to be built at Stevenage, Herts. The Watford Laboratory is especially interested at present in disposal of waste into the river Thames which is causing anærobic conditions in the estuary. It also deals with problems from the Empire. Its director is Dr. B. A. Southgate.

Pictures, top, lcft to right: Experimental sewage treatment plant of the Water Pollution Research Lahoratory, Finham, Coventry. [Photo: Crown Copyright.] Percolating filters at the new effluent purification plant at the Ruabon factory of Monsanto Chemicals, Ltd.; and one of two specially designed strong-effluent neutralising pits at the factory. The pits, 20 ft. in diameter and depth, are constructed within outer pits 25 ft. in diameter. The intervening space is filled with clean water to prevent leakage of the strong liquor into the ground.



Counter Packs Udispensing prices

QUANTITY-PRICES PER DOZEN

6 doz. 8/6 12 doz. 8/3 5 gross 7/9 10 gross 7/6. No P.T. Chargeable. Other sizes packed 1 oz. and 4 oz. Jars. TERMS Less 2½% 14 days. FREE delivered van area. Outside carriage extra at cost.

SAMPLE SENT ON REQUEST.

Bulk ointment prices and contract prices on application. Full range of packed drugs and galenicals.

SKUSE & CO. LTD.

Manufacturing Chemists

839/841 Harrow Road, London, N.W.10 'Phone: LADBROKE 2201-2-3

'Grams: SKUDENT, HARLES





Modern Plant

Prompt delivery

Quality and accuracy guaranteed

B.P., B.P.C., & N.F. tablets stocked

G.O. WOODWARD & CO.LTD.

LARKHALL WORKS, NUNHEAD GREEN, LONDON, S.E.15 NEW CROSS 0478

special bonus terms

Orders for 'CPL' products to the net value of £5 and over qualify for 10% discount. Please send such orders, indicating the wholesaler for invoicing, to



CLINICAL PRODUCTS LTD.
RICHMOND, SURREY

Telephone: RIChmond 4023/24, 4409, 5931



BURROUGH'S DOUBLE S RECTIFIED

JAMES BURROUGH LTD., 4 Cale Distillery, London S.E.II

INFORMATION WANTED

The Editor would appreciate information about suppliers of the following items:

Crown-shaped, gold-painted bottles of lavender water and eau de Cologne



For Retailer, Wholesaler and Manufacturer
ESTABLISHED 1859

Published weekly at 28 Essex Street, Strand, London, W.C.2

TELEPHONE CENTRAL 6565
TELEGRAMS: "CHEMICUS ESTRAND, LONDON"

Second Thoughts on the Code

CONSIDERABLE changes are made in the second draft revision (C. & D., March 28, p. 313) of the Statement on Matters of Professional Conduct which the Council of the Pharmaceutical Society issues for the guidance of its members. The essence of any code of professional conduct is, as we have insisted previously, willing acceptance by a majority of the profession of the obligations it imposes, and it is evident that the Council has taken considerable note of the very widespread criticisms of the first Revised Draft (published "for discussion only" shortly before the September 1952 Branch Representatives' meeting) that have been voiced by Branch Representatives, by branches and groups of branches of the Society, by individual members, and by the National Pharmaceutical Union. The new draft is published for "consideration" by a Branch Representatives' meeting and by the annual meeting of the Society on May 13, and if it is approved by the latter it will replace the existing Statement as published in the Society's calendar.

What Branch Representatives and members "consider" on that date must obviously be the result of close study beforehand of the various clauses, because a matter of such far-reaching importance cannot be left to any last-minute impressions that are not the result of careful examination of the proposals. In what respects, then, does the second revised draft differ from the first?

In the first place some of the previously numbered clauses are brought forward into a generalised preamble, which sets out the need for professional standards and deals with the relations between pharmacists. Clauses previously concerned with relations between pharmacists and doctors are omitted, presumably because the Statutory Committee might not always be able to deal satisfactorily with matters involving the ethics of another profession. The whole of the numbered clauses that remain—apart from the one which disallows the use of the Society's coat-of-arms for business purposes, and which seems to have to do with questions of copyright rather than with questions of right or wrong—involve the relationships of pharmacists with the community at large.

One of the most welcome changes is that the size of premises and staff and the amount of equipment are taken out of the sphere of discipline, and no reference is made in the new draft to rota arrangements. Instead, the provision relating to conditions in the

pharmacy are related—very properly in our view—to "avoidable risk of error or of accidental contamination." In the interests of the public those risks ought, of course, to be reduced, but it remains perfectly possible for good work to be done in small premises.

Another advance in Council thought is shown in the omission, in clause 3, of any ban on displays of "articles other than medicines and medical and surgical appliances." From the appearance of the premises it has to be "clear that pharmacy is the main purpose." That is reasonable enough, yet in most people's experience a mainly pharmaceutical appearance is entirely compatible with displays of toilet preparations, cameras, horticultural chemicals, and certain other subsidiary merchandise.

The "contraceptive" clause is made much more specific and realistic. The hypothetical "authorised notice" indicating that approved articles are sold is abandoned in favour of a notice (to be approved by the Council) bearing the words "Family Planning Requisites." Members are left in no doubt, from the words "reference direct or indirect by way of advertisement, notice, showcard or otherwise," that any but the most reticent marketing of such products will involve disciplinary action once the clause gains the approval of the meetings in May.

The most drastic change is in the clause dealing with display material or advertising for medicines and medical appliances. Defining "undignified in style" may not prove easy, but the Statutory Committee, before it arrives at the point of having to do that, is given eleven specific "offences" any one of which is susceptible of proof after the hearing of evidence. We believe that the eleven points are well attuned to the professional conscience of pharmacy at its present stage of evolution.

There are a number of minor changes, and one that will give satisfaction is the dropping of the rather offensive word "cover" in favour of a form of words that is not only more judicious but also more specific.

An examination of the objections raised during the months since the first draft was put up for discussion shows that they have been seriously considered by the Council and most of them have been met. There may remain details that the Branch Representatives, at their meeting in May, will demand should be further modified, but all must admit that, whatever may have happened in the past to some of the resolutions carried at those meetings, on this occasion the views of members have been given the fullest weight. That is as it should be.

Making the Most of Machines

Nowhere is the ability of the machine to speed up production of goods more apparent than in tablet manufacture. Production, however, is not, any more than mechanisation, the same thing as productivity, which is essentially a matter of using machines to the best advantage. For that reason a study of the review of tablet-making machinery given on other pages of this issue should, for greatest value, be supplemented by a reconsideration of some of the findings of the Pharmaceutical Productivity team, published eighteen months ago.

The team maintained that the American industry had, in granulating, exclusive of slugging, about double the productivity of the British. In wet sifting the prin-

cipal difference between British and American methods lay in the use of the Fitzpatrick comminutor, without access to which the British pharmaceutical industry was held to be at a disadvantage. Recently an independent committee was set up by the President of the Board of Trade (C. & D., March 28, p. 306, and this issue, p. 353) to inquire into the duty-free entry of machinery into the United Kingdom. That Committee will have no easy task in reconciling the conflicting interests of the user and the manufacturer of machines. But what -from the short-term standpoint-may be to the advantage of the one and the disadvantage of the other may, in the long run, be to the advantage of both, as members of a community faced with common difficulties. It is highly satisfactory, however, that in the meantime a similar machine to the Fitzpatrick comminutor has been produced in this country (see C. & D., February 21, p. 184).

In what was regarded by the Productivity Team as an outstanding example of mechanical handling in America, stainless steel hoppers slung from a monorail conveyor were an important feature. The ingredients were fed through a comminutor into a wet mixer, where they were massed and tipped out into hoppers, which in turn were hoisted above an oscillating granulator into which the mix was fed.

Manufacturers who may have been unable to give effect to the recommendations in 1951 may be in a better position to do so now: certainly the increased fierceness of competition makes it desirable to try. Whether the necessary finance is as readily available may be more problematical. The pressure upon the Chancellor of the Exchequer in recent months to ease the "brake" of taxation upon capital development has been strong; whether it has been effective will not be known until Budget day (April 14).

Exports to Turkey

TURKEY'S recent decision to discriminate against British imports because of lack of exchange (see C. & D., April 4, p. 352) deals another blow to the British pharmaceutical industry. Turkey imported pharmaceuticals from Great Britain valued at about £421,000 during 1952, and in January 1953 the total was over £47,000. In the year 1952, proprietary medicines exported to Turkey were valued at over £102,000, penicillin preparations at almost £100,000; antibiotics, other than penicillin, at £39,000; and sulphonamide preparations at £50,000. The Turkish Press has been claiming for some time now that Britain will not buy her goods and this, no doubt, has been largely instrumental in bringing about the ban. On the other hand, Britain claims that Turkey's prices are too high, and that many of the goods are not comparable in quality with those purchased elsewhere.

An announcement by the Board of Trade is awaited. Meanwhile, the industry can only hope that an early solution may be found to the present impasse.

Little Change

THE publication of a new purchase tax order listing essential drugs and medicines exempted from tax is nowadays normally an event of major importance to the pharmaceutical industry. Prior to the publication of a list, individual members of the industry have applied to the Treasury for exemption from tax of any new drug or combination of drugs that they have been

proposing to market, and when such applications have proved successful the items appear in a new list of the kind that came into operation on March 28 (see C. & D., April 4, p. 330).

Pharmacists will need no reminding that in the past they have had to write down the value of their stocks fairly regularly, but the current list is of little significance for, out of a total of thirteen changes from the previous one, there are only four that are entirely new. Of those four, two are not on the market, and a third is, we understand, for sale to veterinarians only. Five items appear under the names approved by the British Pharmacopæia Commission instead as hitherto under their long chemical name. Two more have been transferred to Head III (under which any one, two or more can be mixed and still remain free of tax). Head II, under which they were previously included, requires the drug to be sold alone in order to qualify for exemption.

Onward from Galen

THE Liverpool Evening Express records in its March 27 issue that widespread interest has been aroused in the herbarium of John Forbes Royle, "one of the classic collections of India," which was "rediscovered" among the plant specimens the Liverpool Chemists' Association presented to the City's museum (C. & D., January 3, p. 1). Inquiries have come in from Sweden and Germany, and—what is more to the point—the museum director has been able to trace, and is acquiring, a copy of Royle's "Botany of the Himalayan Mountains and the Flora of Cashmere," without which work on the collection was held up.



THE medicinal use of tree products has been mentioned recently by a special correspondent to *The Times* (March 23) who draws attention to the use of birch sap in parts of central Europe by people threatened with baldness. So great, apparently was the demand for the sap for the purpose of hair washes and lotions, and for making scent that in some places the trees might suffer from excessive tapping at night by persons other than their rightful owners. By contrast with such empirical attempts to maintain the hair of the head it is thought that studies on ageing, related to the problems of skin grafting which were discussed at a meeting in London recently may eventually provide a scientific approach to the matter.



To help in avoiding destruction of bees and other useful insects by inexpert use of insecticides the Ministry of Agriculture has issued, before the main spraying season, a number of hints on precautions to be taken. They may prove of value to chemist suppliers of the products. For the protection of bees spraying of open blossom (when the bees will be visiting the flowers) should be avoided. Arsenic preparations should be applied either before the buds open or after petal fall. Insecticides containing DDT or benzene hexachloride (BHC), however, should be used only in the period before blossoming except that BHC sprays may be applied to apple trecs a week after petal fall for the control of apple sawfly. Before beginning to spray or dust, the flowers of dandelions and other flowering weeds beneath trees should be cut and removed. So far as possible, spray drift on to hedgrow flowers should be prevented. Beekeepers are advised to provide a constant and easily accessible supply of clean water for the bees in a sheltered, sunny spot near the hives, to prevent them seeking water from moist places under fruit trees which may be contaminated by chemical spray or dust.

MACHINES IN THE MANUFACTURE OF TABLETS

THE demand for tablets has, for a number of reasons—medical discoveries, war, and the National Health Service, to mention a few—increased enormously in the last decade or so. Machines used in granulation—an important process in tablet-making—were dealt with at length in The Chemist and Druggist machinery number last year (C. & D., 1952.I.215) and are therefore omitted in the present issue.

The manufacture of tablets is discussed in some detail in our publication "Pharmaceutical Formulas," Vol. I, a new edition of which was published recently. "Tablet Making," by Arthur Little and K. A. Mitchell, another useful text book, is published by the Northern Publishing Co., Ltd., 37 Victoria Street, Liverpool, 1.

When a manufacturer sets about installing a tablet press he has to think first of obtaining a machine that will comfortably give him the output he requires. Whether his anticipated production is of the order of 5,000 or 500,000 tablets an hour there is a machine available to suit his needs because the choice before him is wide both in models and in outputs. The selection of machines that follows has been grouped for the convenience of the reader, so far as possible according to the output of which the machines are capable. Where a reference is made to the name of the manufacturer of a particular machine a shortened title has been adopted. A key giving the full titles of the companies and their addresses is given on p. 374.

It is important when ordering new round punches and dies to state the diameter required; and to state whether the punches are to be flat, concave, or deep concave for sugar coating. Perhaps it is not out of place to mention at this point that in the Pharmaceutical Productivity team's report published in September 1951, it was stated that the greater curvature on the convex surfaces and the blunter edges of tablets was responsible for the higher productivity in Great Britain than in America in the sugar coating process. If the tablets are to be lettered it must be made clear if the lettering is required on the top punches only or on top and bottom. Embossed punches give sunken lettering; engraved punches raised lettering on the tablet.

Tablet Compressing Machines

INTENDED for the making of small batches or for experimental work, the Manesty Hantab hand tablet machine produces tablets from $\frac{1}{8}$ to $\frac{1}{2}$ in. diameter at the rate of 100 per minute. Granules or powders are fed

into an oscillating feed shoe which fills the die to the selected volume when the upper punch descends, compressing the material, and the finished tablet is ejected by the lower punch, and is swept from the dieplate by the feed shoe repeating the filling process. Specifications not included above are: Base, 10 x 10 in.; height, 25 in.; gross weight, 156 lb. Adjustments for thickness of tablet pressure are simple punches and dies are easily interchanged on that machine and on the poweroperated bench press-the Manesty SP1.

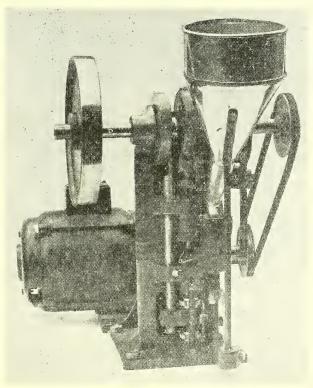
The SP1 has removable transparent plastic guards on the upper punch, feed shoe, and lower plunger. A push-button starter is a standard fitting. The specification includes the following detail: Maximum diameter of tablet, ½ in.; maximum depth of fill, ½ in.; output per minute, 65; horsepower, ¼; bench space, 15 x 29 in.; base, 11 x

12 in.; height $25\frac{1}{2}$ in.; gross weight, 335 lb.

Two power-driven single-punch Manesty machines are the E2 and F3. The former produces tablets up to $\frac{1}{2}$ in. diameter, and the latter up to $\frac{3}{4}$ in. diameter. Maximum depths

of fill in the machines are $\frac{9}{16}$ in. and $\frac{11}{16}$ in., respectively. The maximum output from each is 5,100 tablets per hour. The machines are each available in three models: Fast and loose pulley drive; constant speed motor drive; and variable speed drive - very useful where difficult materials have to be compressed. Adjustments to the machines are simple; weight and pressure can be varied while the machine is running. Each machine is supplied with one set of plain round punches and die. Each machine stands 4 ft. 5 in. high, has an approximate gross weight of half a ton, and occupies floor space varying mately 2 between approximately ft, and 3 ft. square.

A useful hand-operated machine for the production of rouge and face powder is the Manesty Hanpac compact press. It produces a maximum diameter of compact of 1\frac{5}{2} in.; has a maximum filling depth of \frac{15}{16} in.;



Single-punch tablet press (Reed).

an output of between 120 and 240 per hour; occupies a floor space 25 x $17\frac{1}{2}$ in.; and has a gross weight of 280 lb.

Still dealing with single-punch machines, a press that can be arranged for operation by hand, pulley or geared motor drive is supplied on a cast iron stand, or for bench mounting, by Kenneth Reed & Co., Ltd. In operation, only two adjustments are necessary: one for the weight of the tablet and the other for pressure. The hopper is agitated to

fill the die accurately and with minimum waste. One set of punches and die is supplied with each machine. Between eighty and 100 tablets per minute up to ½-in, diameter and 15 gr. in weight can be made.

The Wilkinson standard tablet machine is also of the single-punch variety and is especially suitable where tablets of different sizes are required, as the changing of the punch and die is very easy. The feeder is of the oscillating type with double shake at the filling position. With an output of $110^{-\frac{1}{4}}$ in. to $\frac{9}{16}$ in. diameter tablets per minute, the machine occupies a floor space 2 ft. 6 in. x 3 ft., and weighs 8 cwt. The maximum depth of fill is $\frac{5}{8}$ in.

The Walter Lehmann "W.L." automatic tablet compressing machine manufactured in two models: Standard, giving tablets up to ½-in. in diameter with material of average compressibility, while with material that is easily compressed, tablets up to $\frac{7}{8}$ in. diameter are obtainable; and a geared model, compressing tablets up to $\frac{7}{8}$ in, diameter, from most compressible materials. The output per minute of both models with a

single punch is approximately eighty tablets up to $\frac{7}{8}$ in. diameter; with double punch, 130 up to $\frac{7}{16}$ in diameter; triple punch, 180 up to $\frac{1}{8}$ in.; quadruple 220 ($\frac{5}{16}$ in.); quintuple 250 ($\frac{1}{4}$ in.); and septuple 350 ($\frac{5}{16}$ in.). The overall tuple 250 ($\frac{1}{4}$ in.); and septuple 350 ($\frac{3}{16}$ in.). dimensions of the machine are 4 ft. 7 in. high x 3 ft. x 3 ft. Gross weight is approximately 5 cwt. Another machine by Walter Lehmann is the "Ll.", which besides giving a tablet of 1 1 in. diameter is not too heavy to produce tablets of only $\frac{3}{16}$ in. (with multiple punches). The special hopper ensures constantly accurate filling of the die and consequently regular weight of the tablets even when dealing with difficult material such as ungranulated and other light and voluminous powders. The machine produces tablets up to l_{16}^{9} in diameter with a single punch; up to $\frac{9}{16}$ in, with a double punch and up to $\frac{9}{16}$ in, with a triple punch. Multiple punches can be provided to produce smaller tablets. The maximum depth of fill is approximately 1\frac{1}{4} in., and the maximum height of tablet approximately $\frac{25}{32}$ in. — minimum height approximately 3/64 in. According to the properties of the material and the dimensions of the tablets, the machine does up to sixty strokes per minute. The machine stands approximately 57 in. high; takes up an approximate space of 40 x 28 in.; and has a gross weight of approximately 770 lb.

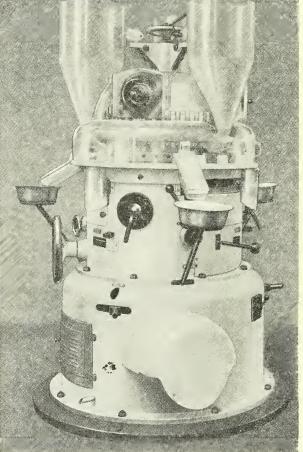
The Apex model 124 single-punch tablet machine makes tablets up to $\frac{1}{2}$ in. diameter at the rate of eighty to 100 per minute. The machine has a totally enclosed electric motor and drive mechanism. All essential parts are readily accessible, punches and dies are easily interchanged. Adjustments for weight of tablet and pressure can be carried out while the machine is running. Optional features include a variable speed drive and an automatic excess pres-

sure release. With variable speed drive the number of strokes per minute is fifty to 128. The maximum depth of fill is ½ in. Pressure from above is 2 tons. The height of the machine is 4 ft. 3 in.; width, 19 in.; and depth, 25 in.

Generally speaking, when an output of tablets greater than some 20,000 per hour is required, it is necessary to use a rotary tablet press. and it is the field of the rotary machine that must now be considered.

In its report in 1951, the Pharmaceutical Productivity team to America stated that the Manesty rotary machine was ubiquitous in Britain, It is fair therefore to start with the Manesty B3 rotary tablet machine which is fitted with sixteen top punmounted in a revolving turret. The material to be compressed is fed from a stainless steel hopper into a designed feed frame which ensures a complete and even fill of the dies, at which point the bottom punches are in their lowest position. As the turret revolves the bottom punches pass over a weight adjusting cam which is set to raise the punches a definite height dependent upon

ches and sixteen specially the weight of the tablet to be made. The excess powder is



Newly-developed Horn DSRM rotary tablet press.

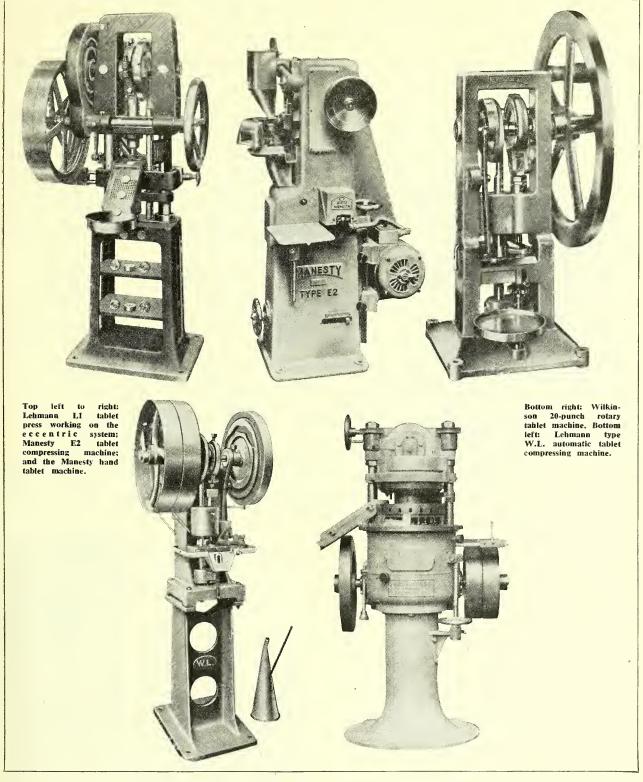
thus ejected from the dies and passed back into the feed frame. The bottom punches then drop so that the powder is not quite at the top of the die so that no powder is ejected from the die when the top punch enters it during compression.

Adjustments for Weight

At compression the bottom punches pass over, while the top punches pass under a corresponding roller. The lower pressure roller is adjustable so that the pressure under which the tablets are formed can be varied. The tablet is finally ejected and swept off the turret by the front portion of the feed frame. Adjustments for weight of tablet and pressure can be made while the machine is running, if desired.

On the B3 machine, pressure is applied from top and bottom. That is an advantage over the single-punch machine where the pressure is exerted by the top punch only. Because the pressure is maintained for a short time during the compression cycle, powders with very little binding power can be compressed into satisfactory tablets.

The B3, as in the case of the E2 and F3 machines referred to above, is available in three models: Pulley drive; and constant, and variable speed motor drive. Average



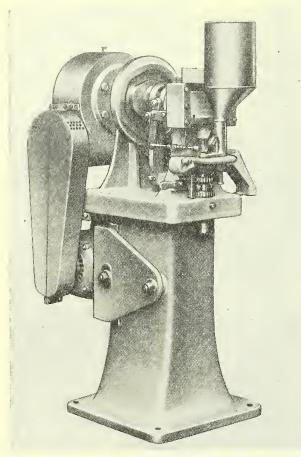
output of the machine per minute is 400 tablets of a maximum diameter $\frac{1}{2}$ in., and maximum depth of fill of $\frac{11}{16}$ in. The machine has a height of 5 ft. 6 in.; takes up a floor space of 28 in. x 33 to $45\frac{1}{2}$ in., and has a gross weight between 1,268 and 1,454 lb., depending upon the model.

A machine especially suitable for the manufacture of tablets consisting of up to three layers of varying powders and with an output depending upon the number of revolutions—normally six per minute—and the number of dies, but varying between 20,000 and 500,000 tablets per hour, is

the Horn DSRM tablet press. Three different tablets with either the same or varying weights can be manufactured simultaneously from three different powders; or the machine can be used as a press with progressive compression action for the compression of especially difficult products. The maximum number of dies is forty-four; the maximum diameter of tablet 20 mm.; and maximum filling height 18 mm. The maximum pressure is twenty tons; power consumption, 4 kilowatts; and the weight is three tons, Each of the three filling, compressing and ejecting stations works

independently and is separately adjustable. By switching off two filling and ejecting stations, the press works with progressive compression action: with primary, intermediate and final pressure, permitting in certain cases elimination of prior granulation.

The Horn B2M press is equipped with either forty-five sets of punches giving a maximum diameter of tablet of 0.472 in., or thirty-nine sets of punches giving tablets



Wilkinson single-punch standard tablet compressing machine.

0.787 in. The maximum filling height in each case is 0.787 in., and the output 32,400 and 28,000 tablets, respectively. The pressure is 8 tons, and the power required, 3 kilowatts. The material to be compressed is fed into filling shoes by way of funnels on the right- and left-hand sides of the machine. The base punch is drawn back to its lowest position by a visible dressing boss. The long filling distance assures an exact volumetric filling of the dies. A spring-operated powder wiper on the filling shoe is easily interchangeable. Measurement of doses can be regulated—even while the machine is running—by a graduated handwheel. After the matrices are filled, the upper and lower punches slide together under the action of superior and inferior rollers and compress the material in the dies. The pressure is easily regulated. At the end of compression the upper punches rise rapidly, moved by a curved annular disc. The base punches are pressed upward to eject the tablets that can be collected at one or two sides of the machine.

Wilkinson rotary tablet machines include one made in three sizes: a large fourteen-punch R.M. machine for tablets from $\frac{3}{4}$ to $1\frac{1}{2}$ in. diameter; the sixteen-punch I.T. machine for tablets from $\frac{1}{2}$ to 1 in.; and the eighteen-punch I.T. machine for tablets from $\frac{7}{16}$ to $\frac{7}{8}$ in. diameter. Fitted with a larger number of punches and dies, the machine makes tablets as small as $\frac{5}{16}$ in. diameter, and as

much as 5 in. deep, even with light fluffy powder. The thickness of tablet from each machine is adjustable and the hardness of the tablet can be regulated. The feed is automatic and double impellers at the base of the container are gear driven. The R.M. machine has a maximum depth of fill of $2\frac{1}{16}$ in.; an output of 135 to 150 tablets per minute; weighs 33 cwt.; and occupies 6 ft. x 4 ft. 6 in. of floor space. Corresponding figures for the I.T. machine are $1\frac{1}{2}$ in.; 170 to 190 (16-punch model); 180 to 210 (18-punch model); 20 cwt.; 5 ft. x 4 ft. 6 in., respectively. For production of tablets in large quantities (up to 400 tablets per minute) there is the Wilkinson rotary tablet machine in two sizes—16- and 20-punch. The 16-punch machine is suitable for tablets from $\frac{3}{8}$ to $\frac{3}{4}$ in. diameter and has an output of from 250 to 300 tablets per minute; the maximum depth of fill is \(\frac{5}{8} \) in. The 20-punch machine for tablets from $\frac{1}{4}$ to $\frac{1}{2}$ in, diameter has an output of from 350 to 400 tablets per minute and a maximum depth of fill of $\frac{9}{16}$ in. Both machines stand 5 ft. 3 in. high and occupy a floor space 3 ft. square. Pulleys are fast and loose. The weight of tablet can be adjusted while the machine is running.

KEY TO THE MANUFACTURERS OF TABLET MAKING MACHINES

APEX CONSTRUCTION, LTD., 15 Soho Square, London, W.1.

IDEAL PACKAGINGS, LTD., 1 Shrewsbury Road, London, N.W.10, are agents for German-made Horn machines.

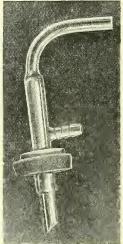
KENNETH REED & Co., LTD., 47 Victoria Street, London, S.W.1.

WALTER LEHMANN, 34 York Way, London, N.1.
MANESTY MACHINES, LTD., Speke, Liverpool, 19.
S. W. WILKINSON & Co., LTD., Western Road, Leicester.

A FITMENT FOR FILTRATION-FILLING

METHOD in constant use at University College Hospital, London, for the simultaneous filtration and filling of intravenous solutions into containers involves the making of the two-nozzle head at right: a simple operation for a metal-worker. The metal tube pierces a rubber-bung which provides an air-tight closure. A flexible





tube from the upper nozzle connects it to a standard suction filter which is immersed in the solution to be filtered and filled. The lower nozzle is connected to any suitable apparatus for creating vacuum. A drawback of the method is that it is not suitable for measuring precise quantities unless the vessel is calibrated, but when the container is filled to any desired level whether by mark or by judgment, removal of the bung breaks the vacuum and ends the flow.

THE MANUFACTURE OF TABLETS

Coating Pans

he masked by sugar coating; or when it is required that the tablets should pass through the stomach unchanged and dissolve on reaching the small intestine, enteric coating will be required. Sometimes, perhaps because of the ingredients, a tablet may have an unsightly

appearance that can be cloaked by coating. Again, coating may improve the keeping qualities of a tablet. For those and other reasons coating is a frequent adjunct to tabletmaking. It is noteworthy that sugar-coated tablets have been added to the British Pharmacopeia, 1953.

The coat on tablets is built up by repeated applications of coating solutions followed by a dusting powder in rotating pans. Each layer must be thoroughly dry before application of the next; hot air is usually employed in the drying process, Polishing of the coated tablets is carried out in a polishing pan coated with The polishing paraffin wax. pan may fit on the same stand as the coating pan, or a pan complete with stand and motor can be used.

The most popular size of coating pan is 30-in., but for small batches and experimental work the 16-in. model BCP2 bench coating pan of MANESTY MACHINES, LTD., Liverpool, is useful. Although the 16-in. copper pan is standard on that machine, other

sizes and other materials can be supplied by arrangement. The motor-drive model is fitted with an end shield mounted motor for D.C. or A.C. single-phase only (250 v. maximum). A pulley drive model with fast and loose pulleys can be supplied to order. For the motor drive model only there can be supplied a self-contained hot air blower. Cold air can be blown if required; a guaranteed hard coated finish is obtained if the pan is run on cold air and the tablets given one or two coatings of cold syrup. The machine, which stands 21 in. high, occupies a bench space of 23 x 20 in. The gross weight, including motor and blower, is 219 lb.

The Manesty CP2 coating pan embodies a specially designed stand, incorporating new type gearing and lubrication. The standard model is supplied with a 30-in, diameter copper pan, but larger or smaller pans in copper, stainless steel or galvanised iron can be supplied to order. All controls are within convenient reach of the operator, and guards are fitted. A hot air blower (type III) described below can be fitted to the motor driven model. A model with fast and loose pulleys for belt drive can be supplied as can a model with a speed variable between 12 and 36 revolutions per minute. The machine is 58 in, high; occupies a floor space 39 in, square; and has a gross weight of 606 lb. The blower weighs 36 lb, extra. The variable speed model takes up slightly more space and is slightly heavier.

The type III hot air blower consists of a combined fan, motor unit, and a heater. The air flow pipes are adjustable allowing for suitable positioning in the pan and easy withdrawal for loading or unloading. An air filter is fitted at the intake. A range of eighteen heats can be obtained, Cold air can also be blown.

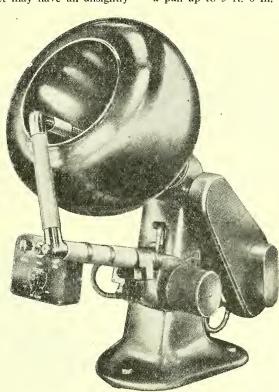
Where a larger machine is required the Manesty LCP1 is available. It is a self-contained unit carrying a pan up to 5 ft. 6 in, diameter. The drive is by a motor

through V belts to the wormshaft. The height of the machine is 80 in.; maximum pan capacity, $3\frac{1}{2}$ cwt.; speed 20 revolutions per minute. The gross weight is approximately 1,624 lb.

APEX CONSTRUCTION, LTD., London, supply coating pans of diameter 16, 24, 30 and 36 in. to hold 12, 50, 110, and 160 lb. of tablets respectively. The 36 in. diameter pan machine takes up a floor space of 3 ft. 10 in, x 3 ft. For small batches of coated tablets a bench type coating pan mounted on a cast iron base is available from the same company, and can be fitted with 12 to 30 in. diameter copper pans. Interchangeable canvas polishing drums are also supplied. They are 28 in. diameter and 11 in. deep. Air heaters for use with coating pans are supplied by the same company in three standard sizes for gas, steam or electric heating:-No. 1 for the 36-in. pan; No. 2 for three 36-in. pans; and No. 3 for six 36-in. pans.

The Apex machines can be supplied belt or motor-driven through a suitable worm

drive. Galvanised iron pans are supplied for suitable materials. For silver coating of pills and tablets the company supplies a motor-driven machine with glass bowls in two sizes—14 in. and $15\frac{1}{2}$ in. diameter.



the 16-in, copper pan is stan- Manesty CP2 coating pan (vari-speed model with hot air blower).

Colouring Tablets

It is in the field of coated tablets that is seen most often the use of colour in tablet manufacture.

The reasons for the use of colour in tablet-making are varied: to lend distinction to the products of an individual manufacturer; to distinguish between different tablets and so to help in preventing mistakes in dispensing where tablets all of the same size, of the same hue and from bottles with labels with too close a "family" likeness can too easily lead to error; to identify the purpose for which the tablet will be used. There springs to mind at once, in that connection, the use of the inevitable pink in mouth-wash tablets.

Normally it is most convenient to introduce colour at the granulation stage of tablet manufacture. The colour should be water-soluble and can be dissolved in the moistening agent. In the unlikely event of a totally spirituous moistening agent being used, a spirit soluble colour is necessary.

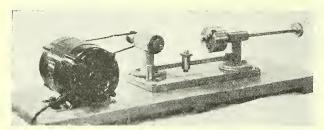
In the case of sugar-coated tablets the syrup used in the coating process is tinted with the desired colour. As the coat is built up with succeeding applications of syrup so the depth of colour can be gradually increased in each syrup, thus avoiding any patchy appearance in the finished product. In the making of chocolate-coated tablets some chocolate powder is mixed with the dusting powder.

THE MANUFACTURE OF TABLETS

Ancillary Equipment and Services

Punch Refacing and Polishing

The maintenance of punches is a problem in all tablet manufacturing departments. The motor-driven punch refacing and polishing machine of APEX CONSTRUCTION, LTD., 15 Soho Square, London, W.1, is simple to operate and the easily followed instructions supplied with the machine describe the refacing and polishing procedure. The machine



Apex punch refacing and polishing machine.

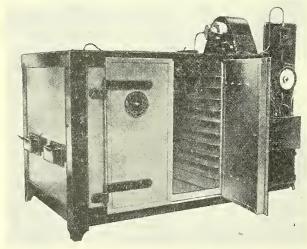
is supplied with six grinding and six polishing wheels and a chart giving the diameters for both standard and deep concave punches. Additional grinding wheels can be supplied, and as they become smaller due to wear, can be cut down with a diamond tool to the size smaller. Additional polishing wheels can be cut from hard wood or from leather. The machine can be supplied for bench mounting or complete with a floor stand.

Punches and Dies Specialists

The company of I. HOLLAND, LTD., 128 Waterway Street, Nottingham, was started as a general engineering concern more than fifty years ago and was early associated with the then new tablet-making procedures. Nottingham, by its early pharmaceutical development in the modern sense, was a centre for those activities. The company has always specialised in tablet-making requirements; high-grade punches and dies for all makes of machines have been manufactured and supplied to many well-known makers in the trade. The company owes its growth entirely to recommendation by its customers and can undertake to make a single punch and die or the largest set for a 10tary machine to any individual requirements.

Drying Ovens

Drying ovens are required in the wet granulation process of making tablets. The best type of oven includes



Manesty-Mitchell electrically heated drying oven type 10 E.

some form of forced air circulation, enabling drying times to be reduced. Sometimes thermostats for the control of temperature are included. Steam and electrically heated ovens are the most popular. Sometimes a combination of both is used. For large batches the truck type dryer saves much handling with consequent saving in time and labour.

Drying ovens supplied by Manestry Machines, Ltd., Speke, Liverpool, 19, include the Manesty-Mitchell shelf type electrically heated cabinets type 10E and 20E, and one truck (type 40E) and two truck (type 80E) electrically heated ovens. The shelf type oven accommodates ten trays, each 32 x 16 x 1½ in., spaced 3 in. apart. Insulation is provided by a special asbestos material filling the space between the sheet steel panels covering the steel frame of the oven. Strip heaters give a working temperature of up to 150° Centigrade and have a thermometer and indicating type thermostat for controlling temperature over the full range (approximately 20-220° Centigrade or 60-430° Fahrenheit). Readings can be made in degrees of both scales. The loading of the oven is six kilowatts, Air circulation is by a fan driven by an electric motor. The 20E cabinet holds twenty trays. The one truck oven (type 40E) is arranged to accommodate one wheeled truck holding forty trays of the same dimensions as those



Sucota model B tablet counting and filling machine.

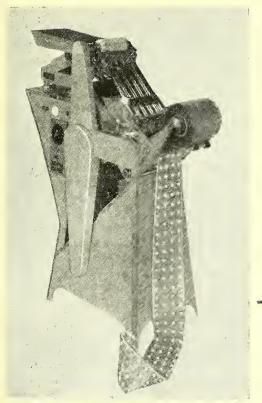
in the shelf type oven. The heating elements give temperatures up to 100° Centigrade. The loading is 12 kilowatts. Type 80E takes two trucks of the type accommodated in the type 40E. In all the drying ovens by Manesty enamelled steel trays are standard but stainless steel trays can be supplied if required. All the ovens can also be supplied adapted for steam heating. Electrically heated models can be supplied for A.C. single phase, three phase (three or four wire), or for D.C.

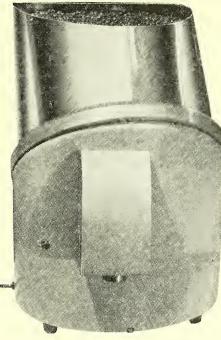
Tablet counting machines

Tablet counting machines were dealt with at some length in an article in The Chemist and Druggist, 1952.II.867. Other machines include the following:—

Two models of Sucota machines are manufactured by Walter Lehmann, 34 York Way, King's Cross, London, N.1. for counting and filling capsules, coated tablets and pills into bottles and other containers. The model S has an hourly output, depending on size and shape of product, of up to 1,800 bottles containing up to fifty ½-in. tablets; 900 bottles containing between seventy-five and 100 ½-in, tablets; or 450 bottles containing 250 ½-in, tablets, The overall dimensions of the model are 24 x 17 x 22 in. high; the

377





Sucota model S tablet counting and filling machine.

Universal unit packing machine.

gross weight is 112 lb.; and the hopper capacity is 60 lb. The model B using two operators has an hourly output of up to 2,400 bottles containing up to 100 ½-in. tablets; 1,200 bottles of 250 $\frac{1}{2}$ -in. tablets; 600 bottles of 500 $\frac{1}{2}$ -in. tablets; or 300 bottles of 1,000 tablets. One operator can produce an output of half the above. The model measures 37 x 25 x 28 in. high, weighs 235 lb., and has a hopper capacity of 80 lb. With both models change-over from one product to another takes only a few minutes; adaptation for different sizes of bottles and other containers is a matter of seconds. The Rotax machine by the same company can be operated by two attendants who can each fill up to 1,200 containers of two to fifty tablets per hour. Tablets are poured into a cylindrical hopper in which a motoroperated piston gradually rises until individual tablets fall over the rim on to a rotating disc. Centrifugal force then directs the tablets through discharge apertures on to two inclined chutes (one for each operator). By placing the container to be filled on to a special holder at the bottom of the chute, the predetermined number of tablets is released and filled. A vibrating device ensures close packing. The number of tablets of any size from $\frac{1}{4}$ to 1 in. diameter to be filled is readily adjustable. Measuring 5 ft. x 1 ft. 8 in. x 2 ft., the machine has a gross weight of 120 lb.

An apparatus that enables tablets to be counted at the rate of 2,000 per minute is manufactured by WALKER WARD (HIGH WYCOMBE), LTD., 64 Aldermanbury, London, E.C.2. The standard apparatus consists of two components: a light transmitter and receiver; and a control unit containing the counting circuit. Tablets are so marshalled from the production machinery as to allow them to pass through the light beam of the transmitter. Immediately after that beam, a solenoid operated plough conducts the stream of tablets into one channel or another. The solenoid is operated by impulses from the counting unit at the end of a predetermined count. If necessary a unit can be incorporated that gives a running total of either the number of tablets or the number of packages received from the counting head. The running total can be pre-set to zero by pressing a button.

Tablet Packaging Service

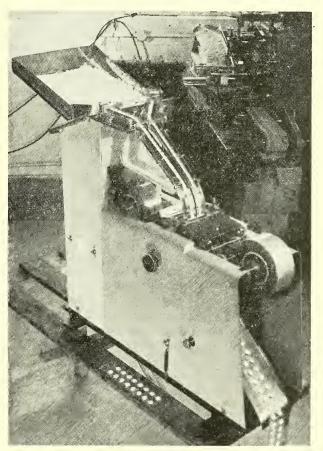
A tablet-packaging service is provided by IVERS-LEE (GREAT BRITAIN), LTD., 113 Farnham Road, Slough, Bucks, for customers who wish to send their own tablets for packaging and return; for customers who wish to have machines installed in their own factories on a rental basis; or for customers who wish to purchase outright the company's packaging equip-ment. The company's service also covers pills, capsules, powders and creams.

Strip Packaging

Strip packaging of tablets is becoming more and more popular. Two machines for that type of work are described below.

The Universal unit packing machine of IDEAL PACKAGINGS, LTD., 1 Shrewsbury Road, London, N.W.10, has a very high speed of operation making 1.680 units per minute if the units are 1 in. square, or 2,160 units if the units

measure $\frac{7}{8}$ in. Units can be filled with one tablet or, if required, with several. It is claimed that the cost of unit



Clinitape strip packing machine.

packing is very much less than conventional packing into bottles, etc. The machine can supply, under the supervision of a single operator, one gross of sheets, each of twentyfive units, within two minutes, eight and a half seconds. The tablets are packed either singly or in multiples between two webs of heat-sealable wrapping material. If the diameters of the products vary, a set of feeding throats are required for the wrapping of each product. For small variations in diameter of products one set of sealing rollers is sufficient; for larger variations, interchangeable sets of sealing rollers are required. The heat-sealable wrapping material—most types can be employed—is fed from two reels. Each reel need not contain the same material. Wrapping materials can be plain or printed with a continuous design that does not require exact positioning. The standard packer uses webs of material in any width up to 7 in. Tablets, pills or other products to be wrapped are filled in bulk into the hopper or tray fitted above the vibrator. They slide, moved by vibration, to the feeding throats and through those to where pushers place the products between the two layers of wrapping material, through the pair of heated, engraved sealing rollers which form the units. The continuous unit-strip moves through sets of perforating discs or slitting knives which either perforate in the length direction of the web or slit the wide web into narrower ones. A guillotine fitted with a counting device perforates across the web separating individual sheets. Each feeding throat is made to reject damaged products. The machine measures 3 ft, x 1 ft, 6 in, x 4 ft. 6 in. high. The gross weight is $5\frac{1}{2}$ cwt.; the net weight approximately 3½ cwt. Ball or self-lubricating bearings are fitted throughout. The machine is powered by a 1/3 horsepower motor of voltage to suit the customer's requirements.

Based on similar principles is the Clinitape strip packing machine. The model illustrated packs tablets in a double row at a speed of 240 tablets per minute. Tablets are hand-loaded into a hopper that holds between 1,500 and 3,000 tablets according to tablet size. The tablets are then elevated by two low speed rotors until they are diverted by hanging gates to two separate tracks which gravity feed the tablets into two V-shaped grooves, thus allowing powder and broken pieces to fall through. At the end of the tracks the tablets drop into suitably formed cavities in the electrically-heated sealing rollers, where they are then sealed between two strips of film which is fed from pre-loaded drums. After the sealed strip is perforated by a second pair of rollers for easy removal of the tablets it is cut into sections containing either two, four, six or twelve tablets. The sections are not quite severed but are connected by three portions of $\frac{1}{16}$ in, that are left uncut. The continuous strip is an advantage in storage and handling. The standard model, whose overall dimensions are 2 ft. $9\frac{1}{2}$ in. high by 3 ft. 6 in. by 1 ft. 2 in., is supplied with interchangeable roller units to pack tablets up to 5/8 in. diamcter. The roller units, which are easily and quickly changed, are in three sizes, A for tablets up to $\frac{11}{32}$ in. diameter, B for tablets from $\frac{3}{8}$ to $\frac{1}{2}$ in., and C for tablets over $\frac{1}{2}$ to $\frac{5}{8}$ in. The machine weighs $1\frac{1}{2}$ cwt, and can be made easily transportable when mounted on a stand fitted with castors.

Pharmaceutical Distribution

Although the Clinitape machine is being distributed to the pharmaceutical trade by VISUAL EFFICIENCY, LTD., 2 The Green, Richmond, Surrey, where a manufacturer wishes to have a trial run or where he wishes to have tablets packed by the machine on his behalf, CLINICAL PRODUCTS, LTD., 2 The Green, Richmond, Surrey, undertake to provide that service and also to pack into cartons or wallets if required.

RECENT RESEARCH

A "NEPHROTIC" PEPTIDE

By paper chromatography Arneil & Wilson (Lancet, 1953. 1, 568) extraeted a peptide containing at least twelve amino acids from eight different commercial posterior-pituitary preparations. The peptide, termed "nephrotic peptide," has strong antidiuretic activity and "probably contains the antidiuretic factor." It is present in the urine of cedematous patients with diseases such as nephrosis.

IMPROVED HANDLING OF RED BLOOD CELLS

A METHOD of storing red cells at —20° C. after mixing with a solution of glycerin and sodium citrate was elaborated and has been described by Chaplin and Mollison (Lancet, 1953, 1, 215). The final concentration of the solution was 30 per cent, glycerin and 3 per cent, trisodium citrate. After three months' storage, 98 per cent, of the cells remained unhæmolysed, and the authors comment "Although this method of storage seems certain to be useful in laboratory work, its value in blood transfusion has yet to be proved." For removing the glycerin from the mixture, Chaplin and Veall (ibid., 218) have worked out a technique and designed an apparatus based on the "long transverse centrifuge."

A VIRUSIDAL MAPLE EXTRACT

An extract of fruits of Norway maple has been found to have a destructive effect on certain viruses and bacterial phages, yet to be without bactericidal effect and non-toxic when administered subcutaneously to mice and rats. The work was done by G. Fisher (Department of Hygiene, Karoliska Institute, Sweden) (Acta Pathologica et Microbiologica Scandinavica, 1952. 31. 433). Four different extracts were prepared of which the fourth appeared to have the greatest activity. The active ingredient, to which the name acerin has been given, is extracted from the dried ripe fruits of the maple (Acer platanoides). Prior to ex-

traction the fruits are boiled with alcohol and ether to destroy an enzyme that decomposes acerin. The fruits are then ground finely and extracted with hot aqueous sodium hydroxide, the liquid filtered and adjusted to pH 7.2-7.3. The fluid is referred to as AcI and is used as the mother liquor for various preparations. Diluted 1:16 it destroys the phage of Escherichia coli in five minutes. The second preparation (AcII) is produced by adding saline and removing an inactive precipitate, and diluting the resulting solution. It is used for subcutaneous injection and has a similar activity towards the *E. coli* phage as AcI. AcIII is a dialyzed preparation of AcII. Cellophane is the dialytic membrane. It destroys E. coli phage within five minutes at a dilution of 1:8. The most highly refined preparation, AcIV, is obtained by removing water from AcIII by freeze drying. The residue is a deep brown fluid and destroys E. coli phage within five minutes at a dilution of 1:64. All the preparations are adjusted to pH 7.4-7.3 and are sterilised by passing through a Seitz filter, only a negligible amount of acerin being lost during sterilisation. The experiments showed that although it had strong phagicidal activity it had affected insignificantly the phage host, As, however, the phage was inactivated even when it had joined its host cell the author suggested that acerin had an antiphage or antivirotic effect.

On Staphylococcus T wort phage the product had no effect. Against vaccinia virus it had a marked virucidal activity which was rapidly reduced, however, by dilution. Rabbits injected with 10 x 3 mils of AcII on eight consecutive days displayed no signs of intoxication and comparable tests on mice gave similar results. Acerin has a slightly bitter taste and can be taken by mouth without causing any side-effects. It is insoluble in methyl and ethyl alcohols, ether and acetonc. Heating at 70°C. or over, or heat at 50°C. and over for five hours reduces its phagicidal activity and also imparts a bactericidal action.

Sixty Years of DRUG TRADE EXPANSION

as reflected in public company finance

PUBLIC COMPANIES IN THE INDUSTRY

Name

Boots Pure Drug Co.

W. J. Bush & Co.
Borax Consolidated
Reckitt & Sons ...
Dubarry Perfumery Co.
British Drug Houses
Taylors (Cash Chemists),
Trust
Vitamins

Taylors (Cash Chemists),

London Savory & Moore Timothy Whites & Taylors Monsanto Chemicals ...

Southalls (Birmingham) ...

T. J. Smith & Nephew ... Beecham Group ... Evans Medical Supplies ... Glaxo Laboratories ...

British Chemicals & Bio-

Allen & Hanburys W. J. Bush & Co.

Vitamins

Aspro

logicals

Albright & Wilson

Authorised Share

£100,000 £8,000,000

1,100,000

4,400,000 5,148,000 200,000

2,250,000

1,000,000

2,000,000

3,176,000

6,300,000

1,000,000

1,000,000

5,500,000

1,000,000

3,000,000

500,000

900,000

200,000

THEN

75,000

250,000

1,400,000

1,700,000 150,000

642,000

1,000,000

2,000,000

3,176,000

1,000,000

4,000,000

1,500,000

300,000

800,000

286,000

500,000

450,000

55,000

RECORD dated 1896 gives Boots, Ltd., as having been formed in that year as a public company to acquire a business of retail chemists and druggists carried on by Boots Pure Drug Co., Ltd., registered 1888. The purchase money was £65,000, which was satisfied by £35,000 in preferred, £15,000 in ordinary and £15,000 in deferred shares. By 1900 the authorised capital was This had grown to £355,000 by 1902 and to £600,000 by 1905. The £1 million mark was reached in 1911. In 1914 it was stepped up to £1,250,000, in 1917 to £1,500,000 and in 1920 to £1,750,000. The £2 millions mark was crossed in 1923 when the capital was increased to

Registered

1888

1893

1897

1899

1926

1927

1928

1931

1934

1935

1937

1945

1947

1948

£2,400,000. In that year, also, the existing ordinary and 7 per cent. cumulative A Preference shares were subdivided from £100 to £1 denomination. In 1926 the £2,900,000 mark was reached and in 1933 the ordinary shares were subdivided from £1 to 5s. denomination. In 1934 the authorised capital was expanded to £3 millions, and in 1947 to £4 millions. The biggest increases were effected in the years 1950 to 1952, for in March 1950, 1,280,000 5s. ordinary shares were issued to holders at 35s, per share. City comment at the time was on the lines that the company was known to have spent over £1½ millions during the previous year, mainly on factories and warehouses. In June 1951 7,680,000 bonus shares were issued, and in February 1952 a further 5,120,000 5s. ordinary

were issued at 16s. per share. City comment was that the operation emphasised the difficulties under which industrial companies were labouring in their efforts to find resources to finance the constantly rising prices of raw materials.

The next entrant into public company finance, Allen & Hanburys, Ltd., also increased its authorised capital total over a period of many years. After registration in 1893, there were successive increases of capital to £125,000 in 1899 (when each £100 share was subdivided into shares of £1 denomination); to £200,000 in 1906; to £300,000 in 1911; to £475,000 in 1912; to £480,000 in 1915; to £550,000 in 1918; and to £850,000 in 1920. The £1 million mark was not reached until 1952 when the expansion was accompanied by an offer of new £1 shares to existing holders at 40s, each. The new capital was announced as being required to finance an increase in the export trade of the company.

W. J. Bush & Co., Ltd., accomplished its capital increases in fewer stages. After registration in 1897, the total was brought up to £375,000 in 1920, in 1948 to £750,000 and in November 1950 to £800,000. In January 1952 the existing total of £1,100,000 was reached by an issue of 300,000 bonus A ordinary shares. This A ordinary class is noteworthy in that it has no voting rights.

The year 1899 was noteworthy for the registrations of two of the most heavily capitalised companies in the industry. The first, Borax Consolidated, Ltd., was formed

perties in France, California and various parts of South America. In 1907 the capital was altered from £1,400,000 to £2,300,000 by the extinction of certain shares and the creation of others. In 1919 the capital was stepped up to £2,900,000. In 1946 $4\frac{1}{2}$ per cent. debentures were exchanged for a 3½ per cent, issue, and 200,000 £1 deferred shares were issued at the substantial price of 42s. 6d. per share. 1951 was a noteworthy year in the company's history, for it was then that 1,500,000 £1 deferred ordinary

to acquire the Pacific Borax and Redwoods Chemical

Works, the Borax Company, and in addition, sundry pro-

for every share held. In that year, also, new records of production and sales were reached, and it was also then stated that over £1,150,000 had been ploughed back into the business since 1946 for buildings, plant and machinery, the fruits of these outlays being then

Reckitt & Sons, Ltd., was formed in 1899 as Reckitts, Ltd., as manufacturers of starch, blue, and black lead. The change of name took place in June of that year. In 1910 the capital was increased from £1,700,000 to £1,820,000. 1918 was a noteworthy year in the company's history, as in January the capital was stepped up to £1,970,000 and in June to £4,148,000. In 1922 the assets of Hargreaves Bros. & Co., Ltd., were acquired, and in

shares were issued as a capital bonus on the basis of one

gathered.

3,750,000 5,500,000 3,750,000 1,500,000 1928 the capital was expanded to the present total of £5,148,000. In August 1938, the company's trading assets, including interests in subsidiaries, were acquired by Reckitt & Colman, Ltd.

The Dubarry Perfumery Co., Ltd., was formed in 1923 to acquire the undertaking of the Standard Tablet Co., Ltd. (including Dubarry et Cie) which had been registered in 1910 as the Standard Tablet & Pill Co., Ltd. Dubarry also directly controls Bellevue Fine Arts, Ltd., the Laking Chemical Co., Ltd., Quality Chemists, Ltd., and the Standard Tablet Co., Ltd. (registered 1925). Its capital growth was on relatively simple lines, as the increase from £150,000

Drug Houses, Ltd., became public in 1926, though the private registration dated back to 1908. In 1916 the capital was increased from £200,000 to £250,000, in 1919 to £310,000, and in 1926 to £642,000. In 1935 the £750,000 mark was reached. In July 1946 £1 ordinary and £1 5 per cent. preference shares were issued at substantial premiums. Late in 1948 further preference shares were issued, also

to its existing total of £200,000 was effected in 1936. The next entrant to public company finance, The British

at a premium.

No Change in Capital

Taylors (Cash Chemists) Trust, Ltd., is one of the few public companies in this field whose current capitalisation is the same as in the year of its registration (1927), 1933 was, however, noteworthy in the company's history

as it was then that a reorganisation was accomplished by cancellation of the rights of the then preferred ordinary shares to a cumulative dividend of $7\frac{1}{2}$ per cent., the subdivision of each of such shares into one 10s. preference and one 10s. preferred ordinary, and the consolidation of each preference and preferred ordinary share of 10s. into one share of £1.

In the following year, Vitamins, Ltd., was registered as Vitamins (1928), Ltd., the present title being adopted in September of 1930. In the same year the capital was increased from £50,000 to £55,000, and in September 1936 is was stepped up to £100,000. In March 1951, 778,000 shares were issued as a capital bonus, and in July of the same year shares to the same number were again issued, this time at 2s. on the basis of one new share for every three held.

Capital Unchanged

The same year, 1928, saw the registration of Taylors (Cash Chemists) London, Ltd. Here, also, current capitalisation is unchanged since the year of registration. A milestone in the company's history was in 1934, when four important changes in its structure were effected. The first was the subdivision of each issued preferred ordinary share of £1 into one 10s. 6 per cent, cumulative preference share and one 10s, preferred ordinary share, the preference and preferred ordinary being then consolidated into £1 shares. The second was the conversion of the unissued preferred ordinary shares into 6 per cent, cumulative preference shares. The third change was the satisfaction of the arrears of dividend on the preferred ordinary to September 30, 1933, by funding certificates; and the fourth was the cancellation of the rights of the preferred ordinary to a cumulative dividend of $7\frac{1}{2}$ per cent.

The conversion of Savory & Moore, Ltd., into a public company in 1931 was preceded by a private registration in 1928, the original business having been established about 1780. In 1931 its capital was increased from £66,800 to £300,000, and the then ordinary shares were consolidated from 1s. to £1 denomination, and the 7 and 8 per cent. preference shares were converted into one class of 7½ per cent. preference. 1939 was noteworthy as being the year in which part of the undertaking of Pharmaceutical Products, Ltd., was acquired and the capital increased to £460,000. The present capitalisation figure of £900,000 was reached in 1944 by the creation of 440,000 £1 5½ per cent. redeemable cumulative preference shares.

In 1930, i.e., four years prior to its conversion into public form, the capital of Timothy Whites & Taylors, Ltd., was increased from £1,500,000 to £2,000,000. In 1933 the then deferred ordinary shares were consolidated from 1s, to 5s., and in 1934 the then preferred ordinary were renamed preference and deferred ordinary, and the capital was increased to its existing total of £3,176,000 by an issue of ordinary and A preference shares.

The large expansion of Monsanto Chemicals, Ltd., shown in the table was accomplished in relatively few stages. After reaching the public company stage in 1934, the organisation carried out in May of 1947 a subdivision of the then ordinary shares from 10s, to 5s., and made an issue of 1,200,000 shares to holders, fully paid from reserves, on the basis of one for one held. In addition, 1,500,000 33 per cent, redeemable preference shares of £1 were offered for sale at 21s, each and 600,000 5s, ordinary at 42s. 6d. each. The issue was one of the most successful of its time, the ordinary attracting a large subscription and immediately establishing a substantial premium. In May 1949 a further 600,000 5s. ordinary shares were offered for sale at 52s. 6d., whilst, in April 1951, 7,200,000 ordinary shares were issued as a capital bonus on the basis of two for every one held, with 1,500,000 $4\frac{3}{4}$ per cent. redeemable second preference shares offered for sale at par.

Aspro, Ltd., was formed in 1935 to acquire that part of the business of A. & G. Nicholas, Ltd., carried on in Great Britain, in Europe (except Belgium, France and

Luxemburg), and certain countries in the Near East and Africa. The company now owns twenty-four subsidiaries (including Ivers-Lee (G.B.), Ltd.) operating in the United Kingdom, Eire, France, Belgium, Holland and South Africa. It is also represented by seven associated companies in Australia, New Zealand, America and Batavia.

1935 saw also the registration of Southalls (Birmingham). Ltd., that name being derived from Southall Bros. & Barclay, Ltd., which dated back to 1898. The company now directly controls C. F. Palmer & Co., Ltd., and Southalls of Ireland, Ltd. Two years prior to the public formation (i.e., in 1933), the authorised capital was reduced from £286,000 to £156,000 by repaying the 130,000 £1 preference shares at 25s. and subdividing each £1 ordinary from £1 to 5s. The capital was then re-increased to £286,000 and further expanded to the present figure of £500,000 in 1940.

The 1937 initial public company capitalisation of Smith & Nephew Associated Companies, Ltd., endured until 1939, when it was increased from £500,000 to £750,000. That figure held until 1951, when 650,000 4s. ordinary shares were offered to ordinary holders at 17s. 6d., on the basis of one for four held. That issue was made to finance the purchase from the Board of Trade of the share capital of Herts Pharmaceuticals, Ltd.

Beecham Group, Ltd., assumed that title in 1945, the previous title having been Beechams Pills, Ltd., incorporated in 1928. Capital alterations were spread over a period of several years. In June 1936 the capital was increased from £2,250,000 to £2,300,000 and in May 1938 to £2,600,000. In that year, also, the rights of the preferred and deferred shares were altered. Capital was again expanded in September 1938 to £3,500,000 and in November of the same year to £4,000,000. The existing total of £5,500,000 was reached in November 1947. At that time it was stated that the home turnover was made up, approximately, as to 50 per cent. food products, 17 per cent. cosmetics and toilets, and 32 per cent. pharmaceuticals.

Evans Medical Supplies, Ltd., also registered in 1945, reorganised and increased its capital to £1 million late in 1949. Part of that authorised increase was effected in March 1950, when about 615,000 new shares were issued at 5s. 6d. each, to meet the cost of new buildings then in course of construction. In July 1951, about 923,000 shares were issued as a capital bonus.

An Exceptional Increase

Glaxo Laboratories, Ltd., reached the floor of the Stock Exchange in 1947, as successor to Joseph Nathan & Co., Ltd. Two years later, in December 1949, the company accomplished a capital increase which was one of the biggest in the entire industrial department. It took the form of an issue of no less than 14,334,300 1s. ordinary shares on the basis of 90 new ordinary for every 10s. of ordinary stock held. At the end of 1950 the authorised total was stepped up to its existing figure of £3,000,000, but no issue was made. At that time, also, it was stated that about £1 million had been spent on new fixed assets in 1949 to 1950, with further projected capital expenditure at home and overseas to an extent in excess of a total of £2 millions.

Albright & Wilson, Ltd., was registered as long ago as 1892, but did not become public until March 1948, when 800,000 5s. ordinary stock units were offered for sale at 28s. per share. 1950 was a noteworthy year in the company's history, as in September £2,023,164 of £1 5 per cent. preference were issued as rights to ordinary holders at 20s. In the same year of 1950 the shares changed hands at up to 22s. 6d. In December 1950, also, £1,014,142 ordinary shares were issued as a capital bonus. A third milestone was in August 1951, when a loan of £2,500,000 bearing interest at $4\frac{1}{2}$ per cent., was privately raised. The directors then stated that they had been advised that that was better, in prevailing circumstances, than a further issue of ordinary and preference shares.

TRADE REPORT

Spot quotations for pharmaceutical chemicals represent the prices for wholesale quantities of standard quality. Prices of crude drugs and essential oils vary as to brand or grade.

LONDON, APRIL 8: No important price changes have taken place in any of the markets since our last report was published. Apart from the short working week it is difficult to say whether holiday influences restricted business activity still further or not, since for a long time now buyers have confined their purchases to fill only their urgent needs. The renewal of negotiations on the Korean war has raised hopes that a settlement will be reached and buyers of far-Eastern commodities will, where possible, hold off to await developments.

A cut of ninepence per lb. was made in Tannic acid. A reduction in the price of virgin Aluminium ingot from £166 to £161 per ton has been announced by Ministry of Materials

with effect from April 1.

In the CRUDE DRUGS market GUM BENZOIN and IPECACUANHA remain firm. Although there is little business being done in Coriander seed the price levels are fully maintained. There are no stocks of fatty-grey Carnauba wax on the spot and only a small supply of the prime yellow variety. The shortage of those waxes was expected to cause an increased demand for Ouricuri and its price rose by 40s. per cwt. on the week. Gum Acacia for shipment was easier.

In ESSENTIAL OILS most commodities showed little price change on the week. The position of LAVENDER SPIKE is stated to be very firm at source. Exporters are buying up all the stocks they can get from the distillers and importers in London are advising cus-tomers to fill their requirements ahead as far as August. In view of the world supplies of ROSEMARY, the Spanish distillers intend to substantially reduce their output this year. LEMONGRASS continued to decline with forward offers said to be around 6s. 9d. per lb.,

UNITED STATES DRUG AND CHEMICAL REPORT

NEW YORK, APRIL 7: Foreign competition forced a drop in CAFFEINE prices with the ANHYDROUS ALKALOID now \$3.00 per lb. (down 50 cents), and the HYDROUS, \$2.80 (50 cents). For the same reason Theobromine was reduced to \$3.00 per lb. (down 75 cents) and THEOBROMINE SODIUM SALICYLATE to \$2.85 (25 cents). RESORCINOL at 77½ cents per lb. was down 5 cents. In CRUDE DRUGS, TOLU BALSAM at \$2.65 per lb. was lower by 20 cents; Indian CELERY SEED at 25 cents (down one cent); Zanzibar CLOVES at \$1.52 (down one cent); and Albary Transfer et 10.1 one cent); and Aleppy TURMERIC at 19½ cents (down 1½ cents). Among ESSEN-TIAL OILS, advances per lb, were scored by Garlic at \$10.00 (50 cents) and LEMONGRASS at \$1.30 (5 cents). Lower per lb, were CARAWAY at \$2.85 (15 cents); blue Hungarian CHAMOMILE at \$10.00 (\$25.00) and bigliary at \$1.00 (\$25.00) and bigliary at \$1. \$190.00 (\$35.00); and distilled West India LIME at \$6.10 (15 cents).

Pharmaceutical Chemicals

AMIDOL.—In 14-lb. lots the price is 19s. per lb.; 7-lb., 19s. 6d.

AMMONIUM CARBONATE. — B.P. lump is £71 5s. per ton.; POWDER, £74 5s. BICAR-BONATE is £47 15s. per ton, all delivered free United Kingdom in non - returnable packages.

Amphetamine.—Base is 160s, per kilo, and sulphate, 140s, d-amphetamine sulphate is from 660s, per kilo.

BARBITONE. — Rates per lb. for 1-cwt. lots is 24s. The SODIUM derivative is 1s. per lb. more than the base.

BARIUM SULPHATE.-1-cwt. lots of B.P. (x-ray) are 1s. 5d. per 1b. and 5-cwt., 1s. 4d. per lb.

CALCIUM PANTOTHENATE.—Price per kilo is £32 10s.

CITRATES.—Rates (per lb.) are as follows:—Potassium, 1-cwt. lots, 3s. 11½d.; 28-lb., 4s. 11d. Sodium, 1-cwt., 3s. 4½d.; 28-lb., 4s. 3d. (powder of both salts one penny more). Calcium, 1-cwt., 4s. per lb. IRON and AMMONIUM, granulated, 1-cwt., 4s. 3½d.; 28-lb., 5s. 4d. (Scales are four-pence per lb. more).

CITRIC ACID.—British makers quote 205s. per cwt. for 1-4-cwt. lots and 200s. per cwt. for 5-cwt.

FORMALDEHYDE. — B.P. solution is 34s.

IODIDES.—Rates (per lb.) for POTASSIUM are as follows:—1-cwt., 17s. 4d.; 28-lb., 17s. 10d.; 7-lb., 21s. 3d. SODIUM IODIDE is: 1-cwt., 18s. 10d.; 28-lb., 19s. 4d.; 7-1b., 23s.

Procaine hydrochloride. — 1-cwt, lots are now 30s, per 1b.

TANNIC ACID.—Lower. Home-trade rate for levis B.P. (ex ether) is from 5s. per lb.

ZINC CHLORIDE. — B.P.C., cake is from 4s. 6d. to 4s. 10d. per lb.; sticks, from 5s. 10d. to 6s. 2d. per lb. Technical, about 140s. per cwt.

ZINC OXIDE.—Rates per ton for B.P. quality are now as follows:—2-ton lots, £125; 1-ton, £126; 5-cwt., £128; less than

Crude Drugs

BENZOIN.—Firm. No. 1 Sumatra block on the spot is from £26 10s, per cwt. and for shipment, £25 7s. 6d., c.i.f.

CASSIA BARK. — Whole on the spot is about 105s. per cwt., in bond, and for forward delivery, 97s. 6d., c.i.f. Broken, 85s., in bond, and 60s., c.i.f.

CLOVES.—Quiet, Offers of Zanzibar on the spot are 10s. 9d. per 1b, and 9s. 8d., c.i.f., for shipment.

COCHINEAL. — Black-brilliant is 8s. 7½d. per lb. and silver grey, 7s., spot.

GINGER.—African on the spot is now 110s, per cwt., and forward at 97s. 6d. c.i.f. Spot quotations for Jamaican are about 127s. 6d. for No. 3; new crop for April-May shipment, 125s.

GUM ACACIA. — Kordofan cleaned sorts on the spot are 97s. 6d. per cwt.; afloat, 88s, 6d.; April-May shipment, 86s. 6d.,

IPECACUANHA.—Firm. Spot Colombian, Als. per lb.; Nicaraguan, 46s., nominal. Forward: Colombian, April shipment, 40s., c.i.f.; Nicaraguan, May shipment, 44s. to 45s., c.i.f.

Papain.—Ceylon white is 42s. 6d. per lb., nominal. Tanganyika is offering at about the same price.

PEPPER.—White Sarawak on the spot is 11s. 6d. per lb.; April shipment, 11s. 4½d.; c.i.f. Black Malabar, is 1,220s. per cwt., spot, and 1,180s., c.i.f., for shipment; Black Sarawak, 10s. per lb., spot, and 1,2 d. c.i.f. for shipment. and 10s. 3d. afloat for special.

QUASSIA. — Bids of 31s, 6d. per cwt., c.i.f., for June-July shipment would probably buy. Spot market bare.

SEEDS.—ANISE.—Quiet. Spot, Cyprus offered at 140s, per cwt., and Turkish, 140s., duty paid (132s. 6d. in bond). CARAWAY. — Dutch, 87s. per cwt., duty paid. Celery.—Indian remains unchanged at 1s. 10½d. per lb., spot London. Corlander. — Spot, Morocco is 40s. per cwt., duty paid. English, 70s.; Morocco for shipment is quoted at 41s., c.i.f., London. Cumin. — Spot, Cyprus, 140s. per cwt.; Morocco, 142s. 6d., duty paid; Malta, 145s. Dill. — Indian, 77s. 6d. per cwt., spot London. Fennel. — Indian, now afloat to London, 220s. quoted, landed. Fenugreek.—Morocco has been sold at 42s. 6d. Mustard.—English, 77s. 6d. to 95s. per cwt., according to quality. paid. CELERY.-Indian remains unchanged 95s. per cwt., according to quality.

Tragacanth,—Unchanged, No. 1 ribbon on the spot is £120 per cwt.; No. 2, £105; No. 3, £70.

TURMERIC. — Madras finger is now quoted at 72s. 6d. per cwt., c.i.f. London.

quoted at 72s. 6d. per cwt., c.i.f. London. Waxes.—Bees'.—Dar-es-Salaam. Spot, 440s. per cwt., April - May shipment, 440s., c.i.f. Sudanese and Abyssinian, 370s., c.i.f.; spot, 430s., duty paid. Candelilla. — Spot is 645s. per cwt., Carnaulba.—Prime yellow, only small lots available on the spot at 1,225s. per cwt.; afloat, 1,175s., c.i.f.; shipment, 1,155s., c.i.f.; fatty grey stocks are exhausted on the spot; shipment, 910s., c.i.f. Montan.—Reibeck crude on the spot is 135s. per cwt. Ouricuri.—Spot, 0.5 per cent. impurities, 730s. per cwt. Spermaceti. — Case lots are 1s. 9d. per lb. purities, 730s. per cwt. Spe Case lots are 1s. 9d. per lb.

Essential and Expressed Oils

ALMOND.—B.P. is from 6s. per lb.

ANISE. — Spot supplies are offered at from 7s. per lb. for original drums, and for shipment about 6s. 9d., c.i.f.

BAY.-W. Indian is 9s. 6d. per 1b. on the spot.

BERGAMOT. — Spot value is about 82s. per 1b.

COD-LIVER.—Medicinal, B.P., is 10s. 6d. per gall, in charged returnable of Veterinary is from 9s. 6d. per gall.

CUBEB. - English-distilled is offered at from 50s. to 55s, per lb. Imported is quoted at 60s, per lb.

LAVENDER SPIKE. — Spanish is about 11s. per lb., duty paid. Firm at origin.

OLIVE. - Pharmaceutical oil in drums is from 26s. 6d. per gall. on the spot, ex warehouse. French virgin (maximum acidity 1 per cent.) is offered for shipment at £285; Tunisian virgin and French pharmaceutical (maximum acidity 0.25 per cent.), at £275 per 1,000 kilos, c.i.f. London. No Spanish offers for bulk supplies.

PENNYROYAL.—Quotations are about 15s. per lb., duty paid.

Saffron.—Mancha superior on the spot at about 140s. per lb.

SAGE. - Spanish is offered at from 8s. 6d. to 9s. 6d. per lb., spot.

SASSAFRAS. — Brazilian natural is offering at 6s. 3d. per lb., duty paid, and 4s. 9d., c.i.f.

TRADE MARKS

From the "Trade Marks Journal," March 25 invalids' foods (5)

For non-medicated toilet preparations (3)
Device of huntsman, 712,437, by Lentheric, Ltd., London, W.1.

For insecticides and fungicides (5)

Cross device, 708,841, by Bolidens Gruvakticbolag, Stockholm, Sweden.

For all goods (5)
CELLUMIN, 712,230, by Genatosan, Ltd.,
Loughborougb, GANTR1C1LL1N, 714,302, by Roche Products, Ltd., Welwyn Garden City. PFIZER, B714,758, by Chas. Pfizer & Co., Inc., Brooklyn, U.S.A. TERGIGAN, 714,906, by Aktiebolaget Recip, Stockbolm, Sweden.

For pharmaceutical preparations (5)

FRUMIX, 711,648, by Shadforth Prescription Service, Ltd., London, E.3. CYBRIN, 712,663, by Philip Harris, Ltd., Birmingbam, SOMNI-VON, 713,361, by Therapeutic Products, Ltd., Greenford. KETHAMED, 715,031, by Medo-Cbemicals, Ltd., London, N.1. V1ROF1GS, 715,078, by Artbur H. Cox & Co., Ltd.,

For pastilles and linctus for treatment of affections of the respiratory tract (5)

CODORINE, 714,023, by Wm. Moule, Ltd.,

For mineral oils for medicinal and pharmaceutical purposes (5)

NUJOL, 714,266, by Esso Standard Oil Co., New York, U.S.A.

From the "Trade Marks Journal," April 1

For nutritive preparations containing amino-acids or their derivatives for use as children's and

AMINOSOL-VITRUM, 710,398, by Apoteks-varucentralen Vitrum Apotekareaktiebolaget, Stockholm, Sweden,

For pharmaceutical preparations (5)

MAXYMIN, 712,639, by the Anglo-French Drug Co., Ltd., London, W.C.1. Device of horse-drawn coacb, 713,342, by Stanley Jackson (Chemists), Ltd., Castleford, BELLA-TR1X, 714,331, by Imextrade (London), Ltd., London, W.C.1. ALDROX, 714,723, by John Wyeth & Bro., Ltd., London, N.16. EVAN-ITE, 715,054, by Evans Medical Supplies, Ltd., Liverpool.

For pharmaceutical æstrogenic preparations and substances (5)

DUROESTRA, 713,491, by Organon Laboratories, Ltd., London, W.C.2.

For insecticides (5)

TETRATOX, 713,558, by Pest Control, Ltd., Bourn. LYCTAGAM, 714,246, by the Standardised Disinfectants Co., Ltd., London, S.W.1. VANQUIPEST, 715,132, by A. F. Galt & Co., Ltd., Edinburgh.

For preparations for destroying insects (5) SAXANE, 714,248, by Tack Air Conditioning, Ltd., London, S.W.1.

For washes for animals, being veterinary prepara-

SILCOTE, 714,470, by Cooper, McDougall & Robertson, Ltd., Berkhamsted.

For injection syringes for surgical and medical purposes (10)

ABBOJECT, VENOPAK, 712,661-62, by Abbott Laboratories, Chicago, U.S.A.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Monday, April 13

1SIE OF THANET BRANCH, PHARMACEUTICAL SOCI-ETY, Belle Vue Hotel, Cliftonville, at 8 p.m. Annual meeting.

ROMFORD BRANCH, PHARMACEUTICAL SOCIETY, the Unicorn, Gidea Park, at 7.30 p.m. Annual

SOUTH SHIELDS PHARMACISTS' ASSOCIATION, DOTSCI café, Ocean Road, South Shields, at 7.30 p.m., Addresses by Messrs, T. Heseltine (vice-president of the Pharmaceutical Society) and G. Graham, Newcastle.

WEST KENT BRANCH, PHARMACEUTICAL SOCIETY, Bell Hotel, Bromley, Kent, at 8 p.m. Mr. W. C. Jarvis, M.P.S., on "Staff Training."

PHYSICAL SOCIETY, Imperial College of Science and Technology, Imperial Institute Road, London, S.W.7, thirty-seventb annual exhibition of scientific instruments and apparatus: open until April 17.

Tuesday, April 14

EDINBURGH AND SOUTH-EASTERN SCOTTISH BRANCH. PHARMACEUTICAL SOCIETY, 36 York Place, Edinburgh, at 7.30 p.m. Annual meeting. Address on "Ethics, Assistants and Oncosts," by Dr. D. McCall (resident secretary in Scotland).

HOUNSLOW BRANCH, PHARMACEUTICAL SOCIETY, conference room, Parke, Davis & Co., Ltd., Staines Road, Hounslow, at 8 p.m. Dr. R. Hodgkinson (head of the company's department of clinical investigation) on "The Evaluation of Drugs.'

WALSALL BRANCH, PHARMACEUTICAL SOCIETY, board room, General Hospital, Walsall, at 7.30 p.m. Annual meeting.

Wednesday, April 15

WESTERN PHARMACISTS' ASSOCIATION, Bonnington Hotel, Southampton Row, London, W.C.1, at 7.30 p.m. Annual meeting and members' open evening.

NORTH LONDON EXHIBITION, Alexandra Palace, London, N.22, Open until April 25 (2 to 10 p.m., closed on Sunday). Admission one

Thursday, April 16

GLASGOW AND SOUTH-WESTERN SCOTTISH BRANCH,

PHARMACEUTICAL SOCIETY, 220 St. Vincent Street, Glasgow, at 7.30 p.m. Annual meeting.

LIVERPOOL CHEMISTS' ASSOCIATION and BRANCH, Adelphi Hotel, Liverpool, at 7.30 p.m. Mr. C. W. Robinson (pbarmaceutical development director, Evans Medical Supplies, Ltd.), on "Pharmacy in its New Perspective."

LONDON BRANCH, GUILD OF PUBLIC PHARMACISTS, 17 Bloomsbury Square, London, W.C.1, at 7 p.m. Mr. R. T. M. Haines (chief chemist, the Crookes Laboratories, Ltd.) on "Surface Tension."

SOUTHEND-ON-SEA BRANCH, PHARMACEUTICAL SOCI-ETY, Queen's Hotel, Westcliff-on-Sea, at 7.30 p.m. Annual meeting,

WIMBLEDON PHARMACISTS' ASSOCIATION, Town Hall, Wimbledon, at 7.45 p.m. Annual meeting and discussion on "Matters of Professional Conduct" and "The Registration of Assistants.'

MICROBIOLOGY GROUP, SOCIETY OF CHEMICAL IN-DUSTRY, 11 Chandos Street, London, W.1, at 6.15 p.m. Dr. Lois Dickinson on "The Use of the Bacteriophage in the Study of Viruses" and Mr. L. J. Meanwell on "Bacteriophages of the Lactic Streptococci."

Friday, April 17

HULL CHEMISTS' ASSOCIATION and BRANCH, 1mperial Hotel, Hull, at 8 p.m. Annual meeting.

FINE CHEMICALS GROUP, SOCIETY OF CHEMICAL INDUSTRY, chemistry lecture tbeatre, King's College, Strand, London, W.C.2, at 7.30 p.m. Dr. W. Mitchell on "Isolation of Fine Chemicals from Natural Sources,"

St. Andrews and Dundee Branch, Chemical Society, chemistry department, United College, St. Andrews, at 5.15 p.m. Professor F. S. Spring on "Some Developments in the Chemistry of cortisone."

Advance Information

STUDENTS' UNION, SCHOOL OF PHARMACY, UNI-VERSITY OF LONDON, is bolding its sessional dance in London on April 22.

MIDLAND REGIONAL GROUP, PHARMACEUTICAL Society, is holding a conference at Reading on April 19 commencing with a divine service at St. Laurence's Church, Reading. at 3.15 p.m.

PRINT AND PUBLICITY

Show Material

PAINES & BYRNE, LTD., Pabyrn Laboratories, Ltd., Bilton Road, Greenford, Middlesex: Rose hip syrup. Leaflets and crowner.

THOMAS GUEST & Co., LTD., Carrutbers Street, Ancoats, Manchester, 4: Vitorange tablets. Showcard and three-colour outers to hold six eartons.

B.G.P. (COSMETICS), LTD., 37 Cbesham Place, London, S.W.1: Lip-cote display unit,

Price Lists

Brook, Parker & Co., Ltd., 7 Asbfield, Horton Road, Bradford. Price list and illustrated export eatalogue of packed pharmaceuticals and toilet specialities.

ORGANON LABORATORIES, LTD., Brettenbam House. Lancaster Place, London, W.C.2: Current prices of hormones, vitamins and laboratory chemicals. February 1953. Pp. 12.

C. L. BENCARD, LTD., Great West Road, Brentford, Middlesex: Card sbowing current prices, March 1953.

LUMSDEN LAMP Co., Millburn, Almondbank, Perth, Scotland: Lumsden Health Lamps. List No. 275. Pp. 6.

Advertising Campaigns

PARKINSONS, LTD., Curzon Street, Lancs: Advertisements for Parkinsons' pills are booked to appear in the Press throughout the country.

BENGUE & Co., LTD., Mount Pleasant, Alperton, Wembley, Middlesex: Pyorex Bailly, and Gut-tilin solutions. Mail, Press and personal pro-paganda to the dental and medical professions respectively,

Dalmas, Ltd., Junior Street, Leicester: Bold advertising of Flypak in National newspapers and magazines.

THOMAS GUEST & CO., LTD., Carruthers Street, Ancoats, Manchester, 4: Vitorange tablets. National advertising.

DOMESTOS, LTD., College Works, Albion Row, Newcastle, 6: Full page advertisement for Stergene in Daily Mail of March 13. Full-size reprints available.

Medical Propaganda

Manufacturers' leaflets, folders, booklets, etc., directed to doetors but available to pharmacists.

BURROUGHS WELLCOME & Co., 183 Euston Road, London, N.W.1: "Tubarine" (blotter); London, N.W.1: "Tubarine" (blotter);
"Pethidine," "Physeptone Linctus," "Triostam" (4-p. leaflets); "Daraprim" (6-p. folder).

ALLEN & HANBURYS, LTD., Bethnal Green, London, E.2: "Antibiotic Therapy" (indication table); card including Sulpenin dosage table "Euvalerol M" (4-p. leaflet); "Eucortone (6-p. folder).

ORGANON LABORATORIES, LTD., Brettenham House, Laneaster Place, London, W.C.2; "Bifacton" (4-p. lcaffet).

JOHN WYETH & BRO., LTD., Clifton House, Euston Road, London, N.W.1: "Penidural" (plastic pocket-dosage-scheme and 12-p. booklet).

THE BRITISH DRUG HOUSES, LTD., Grabam Street, City Road, London, N.1: "Therapeutic Indications for some B.D.H. Medical products" (4-p. card); "Mepilin" (blotter); "Hay Fever-Ancolan " (4-p. leaflet).

DUNCAN, FLOCKHART & Co., LTD., 104 Holyrood Road, Edinburgh, 8: "Xylocaine Viseous" (6-p. folder).

ROCHE PRODUCTS, LTD., Welwyn Garden City, Herts: "The Roche Courier," Vol. 19, No. 3, 1953; "Ro-A-Vit," Gantrisin (blotters); "Dromoran Abstracts," No. 65 and No. 66, plus correction to abstract No. 66.

PAINES & BYRNE, LTD., Pabyrn Laboratories, Greenford, Middlesex: "Khellanals Suppositories " (card).

Booklets and Leaflets

AYLENE, LTD., Waterloo Road, London, N.W.2: Chemical products list. Revised edition, Pp. 17.

AUREOMYCIN IN HERPES ZOSTER

By CLAIRE HALLIDAY

SOME physicians consider aureomycin specific in herpes zoster; others believe its efficacy over-rated. The disease is caused by a filterable virus (see illustration) related to varicella. It is not transmitted from one adult to another as such, but children may develop varicella from a herpetic adult. Blank, Burgoon and colleagues' showed that the epithelial cell changes of all forms of herpes zoster, herpes simplex, and varicella are identical and quite unlike the cellular changes of other vesicular skin diseases. The causative virus attacks a spinal ganglion following an injury—a blow, strain, or chill. Often the nervous system is more widely involved. From the spine, the infection follows down a nerve, vesicles breaking out along its pathway. Ulceration and even gangrene may develop. Secondary infection may destroy the sight if facial nerves are involved. Paralysis may result in some areas. Kalz and colleagues2 were probably the first to report the successful use of aureomycin in herpes zoster. By giving the drug locally and orally the duration of the disease is reduced to a quarter of the usual time. A 1 per cent. aureomycin solution is painted on to the pricked vesicles; as the solution dries, other applications are made. Binder and Stubbs³ discovered its effectiveness by accident when treating a herpetic patient with x-rays. Another condition required aureomycin and the herpes responded within twenty-four hours. Dramatic results followed in three of four other cases. Of twenty-four cases treated by Finland and colleagues' with aureomycin, fifteen improved within less than twenty-four hours; only one had post-herpetic pain. Goodson⁵ obtained striking results in a severe case with signs of eye complications. In controlled tests on the value of aureomycin and chloramphenicol in the disease involving forty-four patients, Carter⁶ found that there were no significant differences between





Electron photomicrograph of herpes zoster virus, gold shadowed.

the treated patients and controls in respect to pain or spread of the disease, but that patients treated with either drug developed no secondary infections. He suggested reserving those drugs for ophthalmic and other severe cases where life is endangered. An editorial in the *British Medical Journal*¹ expressed the opinion that the drugs were not specifics for the disease.

REFERENCES

- Blank, Burgoon and colleagues, Journal of the American Medical Association, 1951. 1410. 146.
- Kalz, Prichard, and Surkis, Canadian Medical Association Journal, 1949. 61. 171.
- 3. Binder and Stubbs, Journal of the American Medical Association, 1949. 141, 1050.
- Finland, Finnerty and colleagues, New England Journal of Medicine, 1949. 241, 1037.
- 5. Goodson, British Medical Journal, 1951. II. 58.
- 6. Carter, British Medical Journal, 1951. I. 987.
- 7. British Medical Journal, 1950. II. 1485.

BIOLOGICAL PROBLEMS IN PLASTIC SURGERY

Improving on Nature

A T a meeting of the Hendon and Edgware Branch of the Pharmaceutical Society at Edgware on March 23, Dr. R. E. BILLINGHAM (holder of a British Empire Cancer Campaign Research Fellowship at University College, London) gave an address entitled "Some Biological Problems confronting the Plastic Surgeon." Nature, he said, seemed incapable of repairing the damage when the full thickness of the skin had been destroyed as happened in burning. There was, however, a surgical operation which made good that inadequacy of nature. It consisted of removing a thin shaving of undamaged skin and binding that on to the damaged area. Blood vessels soon began to penetrate and within four days the skin graft began to take. The best donor areas were the thigh or arm. After a graft "harvest" had been taken the skin regenerated spontaneously and if necessary a second or third crop could be harvested. Difficulties arose when as much as 70 or 80 per cent, of the skin was destroyed. The surgeon then cut discs from the remaining undamaged skin and spaced those over the raw areas. Eventually epithelium from each disc grew out and linked up in a sheet. The sheet was, however, cosmetically poor and was only a make-shift life-saving measure. The lecturer and his colleagues had prepared a suspension of rabbit skin-cells and had found that the suspension, spread over a raw area of rabbit skin, was efficacious. Although skin which appeared to be a tough tissue could be preserved in a refrigerator for up to 300 days, skin banks were impracticable as grafts from one person would not take on another. At best such "homografts" could only be used in emergency. The body appeared to react towards a homograft as it did towards the causative organisms of,

for example, measles, and an attempt by the lecturer and colleagues to demonstrate a skin antibody had produced encouraging results. They had used a suspension of rabbit cells and precipitation technique. The U.S. Navy had carried the idea of blood bank to the point of storing skin homografts in the freeze-dried state. The skin could be reconstituted merely by adding saline. Details of the use for large blood banks of that type, however, had not been determined.

The nearer the genetical relationship of skin donor and recipient the longer the homograft survived, and in the case of identical twins a homograft from a twin's brother was just as effective as 'an autograft.

No relationship had been found between the known blood group systems and skin factors, and it was probable that skin cells had systems not present in blood cells. The problem of making skin homografts acceptable was of highest importance in surgery. It had been found that trypan blue prolonged the life of a homograft in mice, and it was thought that that dye was taken up by the cells responsible for producing immunity factors. Total body x-irradiation and the administration of cortisone also seemed to reduce the immunity reaction in animals. The success of corneal homografts seemed at first to be anomalous but explanations were forthcoming. By injecting cells of a hen of one strain into an incubating egg of a hen of a different strain a chicken was produced which would accept a graft from the strain with which its embryo had been infected. The lecturer was hopeful that eventually the rejection of homografts would be overcome and wider applications to human surgery made.

NEW BOOKS

Kind Killing

F. JEAN VINTER (COMPILER). The Universities Federation for Animal Welfare, 284 Regent's Park Road, Finchley, London, N.3. 8½ x 5½ in. Pp. 24. Sixpence.

THE booklet is intended to help those who may have to destroy animals when there are no experts available. About one-third of the space is devoted to the destruction of dogs and cats by the use of drugs (barbiturates and chloroform), by shooting, by stunning, and by gassing. Warnings are given against the use of electrocution and decompression. A note is included on the chloroforming of an animal that has been seriously injured.

Freezing and Drying

Institute of Biology, Tavistock House South, Tavistock Square, London, W.C.1. $8\frac{1}{2}$ x $5\frac{1}{4}$ in. Pp. 202. 15s.

A COMPILATION of the papers read at a symposium on "Freezing and Drying" organised by the Institute of Biology in London in June 1951 and reports of the discussions on the papers. The papers are grouped under the headings "Industrial Applications of Freeze-drying," "The Preservation of Mammalian Cells at Low Temperatures," "The Freeze-drying of Bacteria and Viruses" and "Tissue Fixation by Freezing and Drying." Of direct pharmaceutical interest are papers dealing with the commercial freeze-drying of antibiotics, of vaccinia virus for preservation and of living virus vaccines for veterinary use. Reports are included of actual processes on research, and there are many diagrams and reproductions of photographs and photomicrographs.

Useful Drugs

J. B. Lippincott, Co., Aldine House, Bedford Street, London, W.C.2. 7½ x 5 in. Pp. 240. 20s.

ISSUED under the direction of the Council on Pharmacy and Chemistry of the American Medical Association, the volume gives monographs on essential drugs. Each monograph gives a description of the drug, its properties, action and uses, and dosage: under the last two headings the information given is more detailed than in official pharmacopæias. References to official or officinal monographs where given relate to the United States Pharmacopæia, New and Non-official Remedies, or the [U.S.] National Formulary. The purpose of the book, as stated in its preface, is "to encourage the practice of rational therapeutics" by providing a "selected materia medica." A subject index and a therapeutic index (classifying drugs under headings such as analgesics, cathartics, depressants, etc.) are preceded by a section which defines the various kinds of "pharmaceutic" preparation (decoctions, fixed and volatile oils, pills, syrups, etc.).

Antibiotics: A Survey of their Properties and Uses

The Pharmaceutical Press, 17 Bloomsbury Square, London, W.C.1. $8\frac{1}{2}$ x $5\frac{1}{2}$ in, Pp. 255, 25s.

This book, written by a number of contributors, is published by direction of the Pharmaceutical Society and is intended as a second edition to replace a similar book called "Penicillin: Its Properties, Uses and Preparations," which was published in 1946. Since the appearance of the earlier book, four new antibiotics have been introduced into medicine, and others known to workers in the field are legion. However, a more important change that has occurred between the publication of these two books is that certain principles about the use and properties of antibiotics have emerged. More is known to clinicians about drug resistance and about the reactions of the body, and to pharmaceutical workers about methods of purifying biological materials, to mention but a few of the advances that have occurred since 1946. This book is intended for a wide circle of readers. There are chapters on manufacture, chemistry, methods of assay, clinical use, veterinary practice, and legal aspects of antibiotics, besides those of primary interest to the pharmacist, for whom the book is chiefly intended. Its wide range is both its merit and its chief shortcoming. As an instance, the chapter on chemistry, which is obviously necessary to complete a summary of this nature, is probably too complex to convey much information to the average medical or pharmaceutical reader,

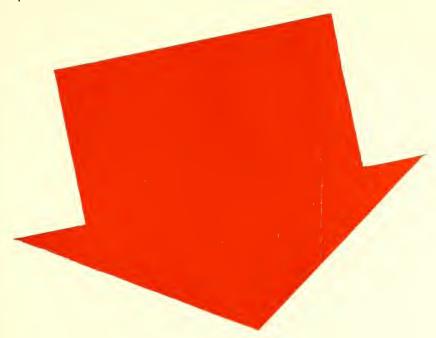
and yet it is too sketchy to be of much value to the organic chemist to whom more comprehensive surveys are in any case available. The chapter on the experimental background and the mode of action on bacteria can also be criticised, since only three pages out of a total of thirty strictly conform to this title; the others are concerned with practical problems such as toxicity, prolongation of action, and dosage. This is perhaps a carping criticism, since so little is known about the mode of action of these sub-stances and, though what is known is one of the most fascinating parts of the subject, it is certainly too abstruse to be discussed at length in a practical book of this type. Yet these three pages, within their justifiable limitation of space, hardly reach the high standard of the rest of the book, and confidence in them is shaken by a brief description of the action of penicillin on bacterial chromosomes, elusive creatures that shun the gaze of bacteriologists in general—apart from a chosen few, and even for them the bacterial chromosomes are too shy to appear in photographs. In contrast is the chapter on standards and methods of assay: the special value of this chapter is its discussion and definition of the unit of penicillin, an idea that is widely misinterpreted by many practising doctors and possibly not a few pharmacists; in addition the summary of methods of assay is undoubtedly the best available.

Criticism has been launched chiefly at the specialised chapters in this book, which are in a sense the least important part of it. For the book is intended chiefly for pharmacists and for workers in pharmaceutical research and industry, and it is by its value to those workers that this book will stand. It provides, in a form easy to read and rapid for reference, such an authoritative account of the use of antibiotics in modern practice—together with a host of preparations, methods, uses, stabilities, sensitivities, and other data—as can be found in no other single source, while many larger books contain less information. Although the specialised chapters have been criticised individually, their inclusion greatly increases the value of the book, for the good pharmacist is a repository of knowledge as well as of drugs, and he should be able to give informawell as of drugs, and he should be able to give informa-tion on the clinical or veterinary use of the substances that he dispuse. This book takes full account of these functions of the harmacist by providing information that is not strictly within his field, in addition to the informa-tion that he needs both for his own part in dispensing antibiotics and in acquiring a proper understanding of their properties and functions. For other workers it is a useful summary, with many references to original work in each chanter, but to the general medical or scientific reader it chapter, but to the general medical or scientific reader it cannot be recommended with quite so much enthusiasm as to the pharmacist. This edition will probably not date as rapidly as its predecessor, for new developments and new antibiotics cannot now change the picture so rapidly. Change there will be, but the principles laid down in this book will probably be valid over a number of years.—W. E. ORMEROD.

Textbook of Pharmacognosy

G. E. TREASE, B.PHARM., PH.C., F.R.I.C., F.L.S. Sixth edition. *Baillière Tindall & Cox*, 7 Henrietta Streeet, London, W.C.2. 8\frac{3}{4} x 6 in. Pp. 821. 37s. 6d.

In this new edition the author has considerably increased the number of references, so that the student may easily collect more information if deeper study is required on any particular monograph. The references are now collected together at the ends of the chapters or after the drugs to which they refer instead of being given as footnotes, as in previous editions. To avoid increasing the size of the book (there are ten more pages than in the previous edition) the author states that he has deleted or condensed much of the matter which now seems obsolete or of minor importance. So far as the deletions are concerned many will regret the practical necessity for this action, since old favourites, despised today, are occasionally in favour again tomorrow, and when that does occur reference must be made to old editions, kept only by a few specialised libraries, with considerable expenditure of time. Mr. Trease is well aware of this and in the preface cites three such drugs (cocculus, veratrum and curare) as examples. Though specially written for the student of pharmacognosy, the book is equally useful to all engaged in the drug trade.



Whiffens offer you immediate delivery

EROMINE PREPARATIONSPOTASSIUM BROMIDE · SODIUM BROMIDE
AMMONIUM BROMIDE · POTASSIUM BROMATE
ETC.



WHIFFEN & SON LTD.,

NORTH WEST HOUSE, MARYLEBONE ROAD, LONDON, N.W.1

Telephone: PADdington 1041/6

Telegrams: Whiffen, Norwest, London



The name that guarantees accuracy



- CLINICAL THERMOMETERS
- HOUSEHOLD THERMOMETERS
- INDUSTRIAL THERMOMETERS

G. H. ZEAL LTD

LOMBARD ROAD, MORDEN ROAD, LONDON, S.W.19

Telephone: LIEERTY 2283-4-5-6 & 4201

Cables: "ZEALDOM" LONDON